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Abstract: This chapter investigates phrasal and clausal comparatives in Standard Arabic and draws inferences about structural conditions on both covert A' movement and case assignment, a kind of A-dependency. It finds that in comparative constructions, subjects may undergo covert A' movement, as can, more surprisingly, objects of prepositions. That is, Arabic has covert preposition stranding, something that is not possible in the overt syntax. Previous claims to the effect that sluicing constructions display overt preposition stranding are found to not be convincing, though covert preposition stranding is documented here. This chapter also finds that in comparative constructions, genitive case may be assigned by the preposition *min* 'from' to the subject of a clausal complement, a kind of Exceptional Case Marking (ECM) configuration and the only context in Arabic in which genitive is assigned under ECM.

1. Introduction

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This chapter formulates and defends the claim that, firstly, Standard Arabic has covert A'-movement that applies both to subjects and to objects of prepositions, among other less surprising potential targets of movement, and secondly, that prepositions may assign genitive case in the Exceptional Case Marking configuration. These claims are based on evidence from comparative constructions, and demonstrate how the study of comparatives can reveal otherwise concealed syntactic processes. The comparative morpheme in Arabic is the prosodic template ʔaCCaC , where each 'C' represents a consonant position in the template, into which the radical consonants of the root of the underlying adjective are mapped in the derivation of the comparative form. Hence, *ba:rid* 'cold' derives *ʔabrad* 'colder', *tʕawi:l* 'tall' derives *ʔatʕwal* 'taller', etc. Most of the examples treated here concern the adverbial comparative *ʔakθar* 'more' derived from the quantity adjective *kaθi:r* 'much/many'. The comparative adjective is followed by the preposition *min* 'from', which in turn introduces the 'standard' for the comparison.

The two parts of this chapter deal with 'phrasal' and 'clausal' comparatives respectively. In phrasal comparatives, *min* is followed directly by a DP that is compared with a 'target' DP elsewhere in its context in terms of a degree description also given by the context. In clausal comparatives, *min* is followed by full clause, which is contrasted

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with the clause in which *ʔakθar* appears. Both of these constructions shed light on aspects of Arabic syntax more generally, as I elucidate below, beginning with phrasal comparatives.

2. A'-dependencies in phrasal comparatives

In the 'phrasal' comparative, the standard is a nominal phrase, here termed DP ('determiner phrase') after Abney (1987).¹ This standard is contrasted with some type-identical term in the matrix clause, in terms of a degree description. The degree description appears to be constructed from the syntactic context of the comparative morpheme in ways that in most cases require some covert re-shuffling of the components of the matrix clause. Consider (1).² This sentence compares the referent of the pronoun *-ha:* 'it' (referring to the answer that the subject referent is still waiting for) to the referent of the complement of the preposition *min*, namely *al-ʔiʒa:ba:ti l-wa:qiʕijjati* 'the realistic answers'. The latter is the standard; *ʔakθar*

¹ The phrasal comparative contrasts with the 'clausal' comparative, in which *min* is followed by a clause introduced by the relativizer *ma:*. The interpretation of clausal comparatives does not require movement within the matrix clause, and therefore does not present any insights into restrictions on covert A'-movement in Arabic, but does exhibit an interesting kind of Exceptional Case Marking that I discuss in section 3.

² The data reported here is mostly drawn from, or based on examples drawn from, Sibawayhi's *Al-Kita:b*, the Arabic corpus database (www.arabiccorpus.byu.edu) of Modern Standard Arabic (MSA), specifically the newspaper subcorpus, or the primary syntax literature. Classical Arabic examples are transcribed with inflectional morphology, MSA examples only where useful or phonotactically necessary. Occasional examples are of my own invention, and have been judged by fluent MSA speakers.

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asserts that the former exceeds the standard on some measure. The measure is given by the syntactic context: it is a degree relation of the form *jufad^sdⁱlu x* '[he] prefers *x*' where *x* is a placeholder for the two things we are comparing. That is, we are comparing the answer he is waiting for to the realistic answers in terms of the how much he prefers them. The assertion is that the answer he is waiting for exceeds the realistic answers in terms of how much he prefers them. I refer to the thing we are comparing with the standard as the 'target' of comparison, and the description we are comparing them in terms of simply as the 'description'.

- (1) *wa-zalas-a ja-ntaθ^sir-u ?iza:ba ?uxra:*
 and-sat-3MS 3MS-wait-IND answer other
rubbama li-?anna-hu ju-fad^sdⁱl-u-ha:
 maybe to-that-him 3MS-prefer-IND
?akθar min l-?iza:ba:t-i l-wa:qiθijja
 more-ACC from the-answers-GEN the-realistic
 'He sat there waiting for another answer, perhaps one he
 prefers more than the realistic ones.'

The interpretation of such sentences presents an interesting structural dilemma: in the surface structure, the description contains the target, and therefore isn't a description at all, but a complete sentence, here

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jufad^sd^siluha: ‘he prefers it’, as illustrated in (2). Building on Heim (1985), Bhatt and Takahashi (2007) propose in their analysis of phrasal comparatives in Hindi, that such cases of target containment in the description are resolved by covert movement of the target to a position external to the description. In the case of (1), this involves deriving a description over the object position of *jufad^sd^silu* ‘prefer’ occupied by *-ha:* ‘it’. Such a description can be derived from this sentence by moving *-ha:* to a higher position, external to the rest. Whether the clitic *-ha:* itself moves or a covert pronoun that *-ha:* agrees with is not material to the semantic interpretation. Covert movement of the target of comparison accomplishes two things: it puts the target in a local relation to *ʔakθar* and also derives a description of the form *jufad^sd^silu x* ‘[he] prefers *x*’ (see Hankamer 1973, Seuren 1973, Heim 1985, 1999 on English, a.o.). This derivation is illustrated in (3).

(2) [ju-fad^sd^sil-u-[ha:]] ʔakθar min
 3MS-prefer-IND-it more from
 [l-ʔiʒa:ba:t-i l-wa:qiʕijja]
 the-answers-GEN the-realistic

(3) [-ha:]● [jufad^sd^silu t]● ʔakθar min
 ↑
 [l-ʔiʒa:ba:ti l-wa:qiʕijja]●

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This derivation syntactically separates the three things that phrasal *ʔakθar* requires for its interpretation: the target ❶, which has now been extracted from the description, the description ❷, with a placeholder in the position from which the target was extracted, and the standard ❸, which as before is the internal argument of *ʔakθar*. The comparative morpheme *ʔakθar* combines first with its internal argument, the standard ❸, then with the description ❷, then with the target ❶, and asserts that ❶ exceeds ❸ in terms of ❷, or to put it another way, ❶ exemplifies ❷ to a greater degree than ❸ does.³

2.1 Covert movement of subjects

The idea that the interpretation of sentences like (1) requires covert movement will be corroborated below by evidence from structural constraints on movement. Those constraints diagnose movement of the target in phrasal comparatives as a kind of A'-movement, analogous to wh-movement in questions or relative clauses. Note first, though, that the

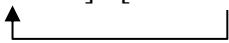
³ In combinatoric terms, if the standard and target are entities of type e and the description is a relation between a degree (in (3) the degree of preference) and an individual (in (3) the placeholder x) of type $\langle d, \langle e, t \rangle \rangle$, then phrasal comparative *ʔakθar* has the denotation $\lambda x_e \lambda R_{\langle d, \langle e, t \rangle \rangle} \lambda y_e . \{d \mid R(y, d)\} \supset \{d \mid R(x, d)\}$. That is, *ʔakθar* asserts that the degrees to which y bears R are a superset of the degrees to which the standard x bears R . This formulation of the meaning of the phrasal comparative is based on Heim's (2006) definition of the clausal comparative in English.

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target of comparison can be a subject, as in (4), which compares the needs of the coach of the Ismaili soccer team to those of the rival Al-Ahly team.

- (4) *wa-ka:n-a l-mudarrib bi-ħa:za li-ha:ða:*
 and-was-3MS the-coach in-need of-this
l-fawz ʔakθar min l-ʔahly li-raff
 the-victory more from Al-Ahly to-raise
l-ħa:la l-maʕnawijja li-la:ʕibi:-h
 the-condition the-mental of-players-his
 ‘The coach [of Ismaili] needed this victory more than Al-Ahly, to raise the spirits of his players.’

Movement of the target *l-mudarrib* ‘the coach’ to the left clause edge evacuates it from the description, as illustrated in (5). The sentence asserts that the coach (of the Ismaili team) exceeds the Al-Ahly team in terms of how much they are in need of this victory.

- (5) *[l-mudarribi]• [ka:n-a t_i bi-ħa:za li-ha:ða: l-fawz]•*

ʔakθar min [l-ʔahly]•

In (5), we have moved the subject of the predicate *ka:na bi-ħa:za li-ha:ða: l-fawz* ‘be in need of this victory’, from the post-auxiliary

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position that it occurs in in the surface string in (4). This means that it is possible to move a subject to a position that is, linearly speaking, preverbal (before the auxiliary *ka:na* 'was'), albeit covertly. This fact bears on a longstanding debate about A'-movement of subjects. It has long been observed that Classical Arabic admits topicalization of objects. This displacement preserves objective case, as (7) shows, evidently derived from the base order in (6) by preposing the object (Sibawayhi, vol. 1, p. 80-81).

(6) Base order

dʕarab-ta zajd-an

hit-2MS Zayd-ACC

'You hit Zayd.'

(7) Topicalization

zajd-ani dʕarab-ta t_i

Zayd-ACC hit-2MS

'Zayd, you hit.'

But it also allows a pre-verbal topic to bear nominative case, as long as it is resumed by a clitic pronoun elsewhere in the sentence, as in (8). I refer to such constructions as 'Clitic Left Dislocation (CLLD)'.

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(8) CLLD

zajd-un_i d^ʕarab-ta-hu_i

Zayd-NOM hit-2MS-him

‘Zayd, you hit him.’

Sibawayhi (p. 107) mentions cases where a pre-verbal topic binds a pronoun in what in other languages are known to be islands (constituents that are opaque to movement), in (9) a relative clause. Since the island would prevent movement, the grammaticality of (9) indicates that the preverbal topic can be base generated in the pre-verbal position. The resumptive pronoun is obligatory here, that is, non-movement chains must be resumed by a pronoun. Doron and Heycock (1999, 2009), Alexopoulou, Doron and Heycock (2003) call *zajdun* in (8) a ‘broad subject’ that occupies [spec,TP], where it receives default Case.

(9) *zajd-un_i d^ʕarab-ta razul-an ju-ħibb-u-*(hu_i)*

Zayd-NOM hit-2MS man-ACC 3MS-love-IND-*(him)

‘Zayd, you hit a man who loves him.’

If a subject is preposed, we would in principle expect derivations corresponding to (7) and (8) to both be possible, as illustrated in (10). It is hard to tell, though, because the subject pronoun and trace differentiating

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terms topicalization in the first place. This view is supported by the fact that pre-verbal subjects must be definite in Modern Standard Arabic (see Mohammad 2000, among others), indicating that they incline towards referentiality, which itself would exclude a pre-verbal subject from being part of an idiom, since in the idiomatic reading of (11), *as-sayfu* does not literally refer to a particular sword.

The facts just discussed from comparative constructions support this latter view. They indicate that subjects may indeed move to a pre-verbal position; that is the position they must occupy when they function as the target of comparison. The facts from comparatives lend support to the conclusion that subjects may move to a pre-verbal position, though overt movement is restricted by conditions on topicalization, specifically definiteness.

In the following remarks, I look at a variety of contexts in which certain construals of comparative constructions are blocked by constraints on movement. This both lends support to the hypothesis that the interpretation of phrasal comparatives involves covert movement of the target (it is restricted by the standard repertoire of constraints on A'-movement) and also sets the stage for another debate in Arabic syntax that comparatives turn out to be relevant to.

If a potential target of comparison occurs in a syntactic island in the surface structure, it cannot be construed as a target of comparison. The

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reason is that construing it as a target would require moving it out of the description. But the island blocks movement, precluding that interpretation. For example, (13) can be construed as asserting that Miryam cried when her daughter got married more than her son cried at that event.

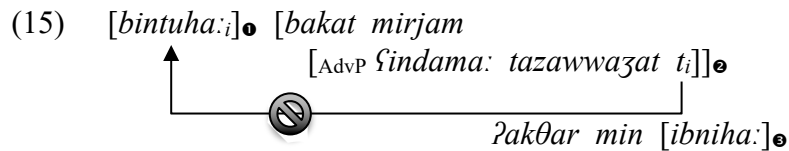
- (13) *bak-at mirjam ʕindama: tazawwaʕ-at*
 cried-3FS Miryam when married-3FS
bint-u-ha: ʔakθar min ibn-i-ha:
 daughter-NOM-her more from son-GEN-her
- ☑ 'Miryam cried more when her daughter got married than her son cried.'
- ☒ 'Miryam cried more when her daughter got married than when her son got married.'

In the legitimate interpretation of (13), the target is Miryam. Like in (4), deriving this interpretation involves moving the subject of the matrix clause to a position external to that clause, as illustrated in (14).

- (14) [*mirjam_i*]_● [*bak-at t_i ʕindama: tazawwaʕ-at bint-u-ha:*]_●
 ↑
*ʔakθar min [ibn-i-ha:]*_●

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The second, potential, interpretation for (13) above is one in which *bintuha*: ‘her daughter’ is the target. That is, we intend to say that Miryam’s daughter exceeds her son in terms of how much Miryam cried when they got married. However, this interpretation is unavailable for (13); it cannot be understood with this meaning. The reason is that in this case, the potential target is in an adverbial clause *ʕindama: tazawwazat bintuha*: ‘when her daughter got married’. This adverbial clause is a barrier to movement (Ross 1967). Moving the target out of the description, then, as illustrated in (15), would cross over this boundary and induce a violation of the adjunct island condition.



The ‘Complex NP Constraint’ also restricts what can function as a target of comparison. This constraint bans movement out of a relative clause and prohibits a certain construal of (16), a variation on Sibawayhi’s (9).

- (16) *dʕarab-ta* *l-raʒul-a* *llaði: ju-ħibb-u*
hit-2MS the-man-ACC REL 3MS-love-IND
zajd-an *ʔakθar min* *ʕamr*

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Zayd-ACC more from Amr

☑ 'You hit the man who loves Zayd more than you hit

Amr.

☑ 'You hit the man who loves Zayd more than Amr hit

him.

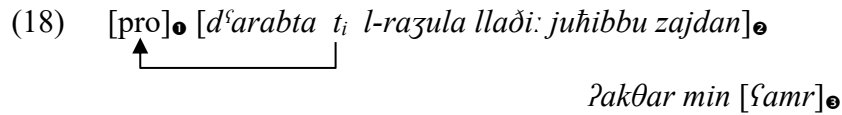
☒ 'You hit the man who loves Zayd more than you hit the man who loves Amr.'

The first legitimate reading involves movement of the object DP *l-razul-a llaḏi: ju-ḥibb-u zajdan* 'the man who loves Zayd' to a position external to the description *dʿarabta x* '[you] hit *x*'. The result is interpreted to mean that the man who loves Zayd exceeds Amr in terms of how much you hit them.

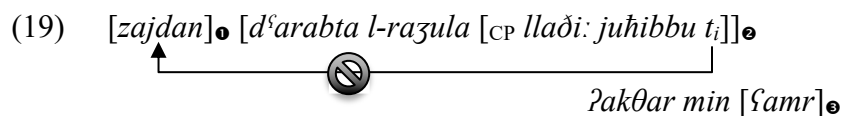
(17) $[l\text{-}ra\text{z}u\text{la}\text{-}a\text{-}lla\text{ḏ}i:\text{-}ju\text{-}\text{ḥ}ibb\text{-}u\text{-}zajdan]_{\bullet} [dʿarabta\text{-}t_i]_{\bullet}$
↑ |
*ʔakθar min [ʃamr]*_●

The second legitimate reading involves comparing the implicit second person singular subject of *dʿarabta* '[you] hit' with Amr in terms of how much they each hit the man who loves Zayd. I assume for this purpose that the second person agreement suffix *-ta* is a reflex of a hidden pronoun notated *pro*, that undergoes movement in the derivation of this reading of (16), as illustrated in (18).

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One logically possible reading of (16) is not available, though, and that is one in which we compare Zayd with Amr in terms of how much you hit the man who loves them. This is not a potential interpretation of (16). The reason is that deriving this reading would involve moving *zaydan* ‘Zayd-acc’ out of the description *d^ʕarabta l-razula llaḏi: juḥibbu x*. But in this description, the base position of *zaydan* is contained within the relative clause *llaḏi: juḥibbu zaydan* ‘who loves Zayd’, marked as category CP in (19), from which it cannot be extracted due to the Complex NP Constraint. The illicit step is illustrated in (19). This syntactic constraint blocks this potential interpretation of (16).



Similarly, the Left Branch Condition bans extraction of a possessor phrase from a DP in an attributive possession construction, illustrated in (20).⁴

⁴ This is referred to as the Left Branch Condition because in English possessors occupy a left branch within DP/NP, as in ‘Zayd’s brother’. Arabic puts these terms in the opposite linear order, but standard analyses of attributive possessive structures in Arabic make this a result of head movement of the noun to a position to the left of the possessor DP,

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- (20) *dʕarab-ta ʔax-a: zajd-in ʔakθar min ʕamr*
 hit-2MS brother-ACC Zayd-GEN more from Amr
 ‘You hit Zayd’s brother more than you hit Amr
 ‘You hit Zayd’s brother more than Amr hit him.’
 ‘You hit Zayd’s brother more than you hit Amr’s
 brother.’

Here, the whole object DP *ʔaxa: zajdin* ‘Zayd’s brother’ can function as target in (20), shown in (21), in which case we compare Zayd’s brother with Amr in terms of how much you hit them.

- (21) [*ʔaxa: zajdin*]_● [*dʕarabta t*]_● *ʔakθar min ʕamr*_●

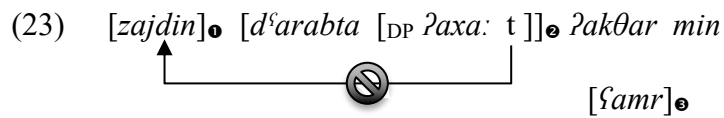
Also, the covert second person subject pronoun can function as target, shown in (22), in which case we compare you with Amr in terms of how much you each hit Zayd’s brother.

- (22) [*pro*]_● [*dʕarabta t ʔaxa: zajdin*]_● *ʔakθar min ʕamr*_●

meaning the possessor is a left branch even in Arabic in the base order. See Ritter (1991), Fassi Fehri (1993), among others.

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However, Zayd cannot function as target. This is evident in the fact that we cannot construe (20) to mean that Zayd exceeds Amr in terms of how much you hit that person's brother. The logical form representing that interpretation would be derived as illustrated in (23). However, the Left Branch Condition blocks the crucial movement step shown in (23), in which *zajdin* crosses over the edge of the DP containing it in the surface structure.



These observations corroborate the idea that the interpretation of phrasal comparatives is derived syntactically; it is subject to standard constraints on syntactic well formedness. Those interpretations that require extraction from an island are simply unavailable, due to the impossibility of extracting from the island.

2.2 Covert preposition stranding

In the case of the Left Branch Condition, Arabic and other languages can circumvent it under overt A'-movement by pied piping. (24) illustrates the impossibility of extraction of a possessor from a DP leaving

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a gap in the DP. A question with the intended reading can be derived by moving the whole DP, though, with the wh-phrase in its base position within the moved DP, as shown in (25). This strategy for circumventing an island is known as ‘pied piping’; instead of extracting from the island, the entire island moves.

(24) Gap:

* man_i d^sarab-ta ʔax-a: t_i
who hit-2SM brother-ACC
(‘Whose brother did you hit?’)

(25) Pied piping:

[ʔax-a: man]_i d^sarab-ta t_i
brother-ACC who hit-2MS
(‘Whose brother did you hit?’)

Another possibility for circumventing an island condition that is available in Arabic is clitic left dislocation (CLLD), as shown in (26), since as discussed previously, CLLD does not involve movement of the pre-verbal constituent. Having said that, native speakers of Arabic do not prefer this strategy. While (26) is judged grammatical, it is viewed for

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reasons that are unclear at present as not as suitable for its purpose as either the pied piping structure in (25) or the cleft structure in (27).

(26) CLLD:

man_i dʕarab-ta ʔax-a:-hu_i
who his-2MS brother- ACC -his
'Whose brother did you hit?'

The cleft structure in question involves making the wh-phrase the subject of a specificational cleft with a relative clause. The relative clause has a clitic in the position the wh-phrase is asking for the identity of.

(27) Cleft

man illaǰi: Op_i dʕarab-ta ax-a:-hu_i
who [is] REL hit-2MS brother-ACC-his
'Who is the one whose brother you hit?'

In light of the observations above about extraction of possessors from DPs, it comes as some surprise that comparative constructions offer evidence for the possibility of extraction from PP in Arabic. Consider (28).

(28) *wa-ka-ʔanna l-muntaxabayn radʕaja:*

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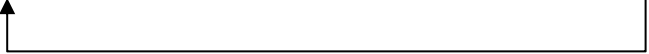
and-like-that	the-team-DUAL	be.content	
<i>bi-l-iḥtika:m</i>	<i>li-rakala:t</i>	<i>l-zaza:ʔ</i>	<i>illati:</i>
in-let.decide	to-kicks	the-penalty	REL
<i>ta-ṣtamid-u</i>	<i>ṣala:</i>	<i>l-ḥaḏ^ᶜḏ^ᶜ</i>	<i>wa-t-tawfi:q</i>
3FS-depend-IND	on	the-luck	the-fortune
<i>ʔakθar min</i>	<i>l-maha:ra</i>		
more	from	the-skill	

‘It was as if the two teams were content to let the outcome be decided by the penalty kicks, which depend more on luck and good fortune than on skill.’

The second part of this sentence says that penalty kicks depend more on luck than skill. That is, luck exceeds skill in terms of how much penalty kicks depend on that. In order to derive this reading, *l-ḥaḏ^ᶜḏ^ᶜ* ‘luck’ must move out of the description *ta-ṣtamid-u rakala:t l-zaza:ʔ ṣala l-ḥaḏ^ᶜḏ^ᶜ* ‘penalty kicks depend on luck’ (in (29) I have for perspicuity replaced the trace of the operator that derives the relative clause in (28) with its referent, *rakala:t l-zaza:ʔ* ‘penalty kicks’). But movement of *l-ḥaḏ^ᶜḏ^ᶜ* ‘luck’ out of this description involves movement out of the PP *ṣala l-ḥaḏ^ᶜḏ^ᶜ* ‘on luck’. It is not possible to strand a preposition in Arabic in the surface structure, as I show below in detail, but it appears that PPs are transparent to covert movement of the target of comparison in the

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derivation of the logical form of comparative constructions, as illustrated in (29).

- (29) $[l\text{-}ħað^{ʕ}ð^{ʕ}]_{\bullet}$ $[ta\text{-}ħtamid\text{-}u \text{ rakala:t } l\text{-}za:za:ʔ \text{ [PP } ħala: t]]_{\bullet}$

 $ʔakθar \text{ min } [l\text{-}maha:ra]_{\bullet}$

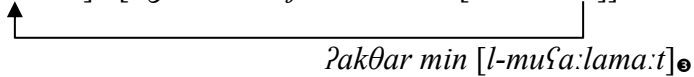
An analogous attested example is shown in (30).

- (30) *wa-la:kinna kaθi:r-an min ri:za:l d-di:n*
 and-but many-ACC from men the-religion
ju-rakkiz-u:na ħala: l-ħiba:da:t ʔakθar min
 3S-focus-PL on the-worship more from
l-muħa:mala:t.
 the-actions
 ‘but many men of religion focus more on worship than on
 action.’

This sentence compares *l-ħiba:da:t* ‘[formalities of] worship’ with *l-muħa:mala:t* ‘actions’ in terms of the description *kaθi:r min ri:za:l d-di:n* *jurakkizu:na ħala: x* ‘many men of religion focus on x’. The derivation of this reading involves moving *l-ħiba:da:t* ‘worship’ out of this description,

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which in turn requires it to evacuate the PP *ʕala: l-ʕiba:da:t* ‘on worship’, as illustrated in (31).

(31) $[l-ʕiba:da:t]_{\bullet} [riʕa:l d-di:n jurakkizu:na [_{PP} ʕala: t]]_{\bullet}$


The puzzling fact about these data is that the step involved, extraction of a DP from a PP, is not possible in the derivation of questions in Arabic, as (32) shows. The other strategies for extraction from an island discussed above are possible here, too, as (33)-(35) show.

(32) Gap

* *maða:i ju-rakkiz-u riʕa:l d-di:n ʕala: t_i?*
 what 3MS-focus-IND men the-religion on
 (‘What do men of religion focus on?’)

(33) Pied Piping

[ʕala: ma:ða:]; ju-rakkiz-u riʕa:l d-di:n t_i?
 on what 3MS-focus-IND men the-religion
 ‘On what do men of religion focus?’

(34) CLLD

ma:ða:i ju-rakkiz-u ʕalay-hi riʕa:l d-di:n ?

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what 3MS-focus-IND on-it men the-religion

‘What do men of religion focus on?’

(35) Cleft

ma:i llaði: ju-rakkiz-u ʕalay-hi riʒa:l d-di:n ?

what [is] REL 3MS-focus-IND on-it men the-religion

‘What is it that men of religion focus on?’

The facts above show that PP is an island for overt movement. But the facts from comparatives show that PP is not an island for **covert** movement in Arabic. Again, this is unlike possessive DPs, which are islands to overt movement (24) and covert movement (23) alike.

2.3 *On purported preposition stranding under sluicing*

The claim that the islandhood of PP can be abrogated in Arabic under some circumstances is not entirely new. Leung (2014) and Alaowffi and Alharbi (2021) make this claim in connection with sluicing in Arabic. In what follows, I suggest that their arguments from sluicing are not fully

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convincing and yield to an alternative explanation. Their overall claim about the conditioned transparency of PP, though, still stands on the basis of the data from comparatives.

Sluicing is exemplified by the examples in (36)-(37) in English. The attitude verb *know* may combine with an interrogative clause, one in which wh-movement has taken place. In the context of an appropriate antecedent, the remnant of wh-movement within the interrogative clause can be elided, as notated in (36)-(37).

(36) Anna spoke with someone, but I don't know who_i ~~she spoke~~
with *t_i*

(37) Anna spoke with someone, but I don't know with whom_i
~~she spoke~~ *t_i*

In English, the wh-phrase that surfaces in sluicing contexts can be either a bare wh-phrase, as in (36), or a wh-phrase with some amount of pied piped material, as in (37). This optionality parallels ordinary wh-questions, as illustrated in (38)-(39).

(38) Who_i did Anna speak with *t_i*

(39) With whom_i did Anna speak *t_i*

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Merchant (2001) claims that in sluicing contexts, some islands for movement are suspended. A clear example of this is the Left Branch Condition, exemplified in (40) by movement of degree interrogative phrase in English. In ordinary questions, it is impossible to extract the degree interrogative adjective *how detailed* from the base DP *a how detailed list* in (40) (which, in pied piping contexts, surfaces as *how detailed a list*; see Bresnan 1973), since the adjective is a left branch there. But in the sluicing context in (41), *how detailed* can be separated from the DP it is base generated within, where the latter is elided.

(40) *How detailed_i does he want a *t_i* list?

(41) He wants a detailed list, but I don't know how detailed_i ~~he~~
~~wants a *t_i* list.~~

Merchant claims that elipsis of the offending syntactic boundary, the DP *a *t_i* list*, abrogates the barrier it would otherwise represent. That is, the barrier holds at the surface level of representation 'phonological form' (PF), and if the barrier has been elided at, then no violation arises. As Merchant describes in detail, it is all the more puzzling, then, that cross-linguistically, the barrierhood of PP is not suspended in sluicing contexts. PPs are 'hard core' islands that do not loosen up under sluicing. This empirical observation is stated as the 'Preposition Stranding

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Generalization': languages allow preposition stranding under sluicing if and only if they allow preposition stranding under wh-movement

(Merchant 2001, p. 92). English allows both preposition stranding or pied piping in wh-questions and in sluicing constructions, as (36)-(39) show.

German and a variety of other languages that do not allow preposition stranding in wh-questions (42), but rather require pied piping (43), also do not allow preposition stranding in sluicing constructions (44).

(42) *Wem_i hat Anna [PP mit *t*] gesprochen?
whom has Anna with spoken
(‘Who has Anna spoken with?’)

(43) [PP Mit wem]_i hat Anna *t_i* gesprochen?
with whom has Anna spoken
(‘With whom has Anna spoken?’)

(44) Anna hat mit jemandem gesprochen, aber
Anna has with someone spoken but
ich weiß nicht, *(mit) wem sie gesprochen hat
I know not *(with) whom she spoken has
(‘Anna spoke with someone, but I don’t know with whom.’)

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It is important to recall that the pattern in (42)-(44) and its parametric relation to English is only unexpected in light of the fact that sluicing tends to abrogate islands for movement, as (40)-(41) show. The suspension of barriers under elipsis does not seem to extend to PPs. In this connection, it is significant that some studies have claimed that the Preposition Stranding Generalization does not extend to Arabic, so that Arabic is a counterexample to the generalization, or at least to its universality.

Alghyani (2012) discusses sluicing in Libyan Arabic and notices that it seems to at least optionally involve preposition stranding (45), a structure that is not possible in questions (46) but that demands pied piping, as in (47), like German above. Example (45)-(47) are Libyan Arabic, Alghyani's example (166) and (165a-b) respectively, pp. 64-65.

(45) *sami təkəlleṃ mʕə wəḥəd, lakən miš ʕarəf*

Sami talked.3MS with someone, but NEG know.1MS

(mʕə) man.

(with) who

'Same talked with someone, but I don't know (with) who.'

(46) **man təkəlleṃ sami mʕə ?*

who talked.3MS Sami with

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(‘Who did Sami talk with?’)

(47) *mʕe man təkəlləm sami ?*

with who talked.3MS Sami

‘With whom did Sami talk?’

Alghyani explains the illusion of preposition stranding by postulating that the deleted constituent in (45) is a cleft, as illustrated in (48) (Alghyani’s example (238), p. 96), a construction also known as ‘pseudosluicing’ (see Shimoyama 1995 and Kuwabara 1996 on Japanese).

(48) *Ali ʕədda mʕə waḥəd, lakən miš ʕarəf*

Ali went.3MS with someone but not know.1MS

man illi Ali ʕədda mʕə ah.

who REL Ali went.3MS with-him

‘Ali went with someone, but I don’t know who.’

Alghyani mentions in passing that D-linked wh-phrases (of the form *which NP*) are compatible with the cleft structure in Libyan, as shown in (49) (his example 239, p. 97).

(49) *ʔayya bənt (illi) təkəlləm mʕə-ha ?*

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which girl (REL) talked.3MS with-her

‘Which girl did he speak with?’

This piece of data is crucial to Leung’s (2014) argument for a movement account of preposition stranding under sluicing in Emirati Arabic. Leung shows that in Emirati Arabic, bare wh-phrases support clefts as in (50)-(51) (Leung’s (4a-b), p. 333), but D-linked wh-phrases do not, as in (52)-(53) (Leung’s (5a) and (6a), p. 334; see also Alaowffi and Alharbi 2021 on Hijazi Arabic). This is in contrast to Libyan.

(50) *fuu_i ftār-eet t_i ?ms?*

what bought-2MS yesterday

‘What did you buy yesterday?’

(51) *fuu_i (hu) elli ftār-eet-ah_i ?ms?*

what 3MS that bought-2MS-it yesterday

‘What is it that you bought yesterday?’

(52) *?aj kitab_i ftār-eet t_i ?ms?*

which book bought-2MS yesterday

‘Which book did you buy yesterday?’

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- (53) *ʔaj kitab_i (hu) elli fʔar-eet-ah_i ʔms?
 which book 3MS REL bought-2MS-it yesterday
 ('Which book is it that you bought yesterday?')

Then, Leung points out that D-linked wh-phrases may appear in sluicing contexts. This means that the elided part of the sluicing construction cannot be a cleft, as illustrated in (54), as such a structure would be expected to pattern like the ungrammatical (53).

- (54) *bəs maa ʔarf ʔaj sʔadiq
 but not know.1S which friend
 (hu) elli ~~fʔarab pro~~ ~~gahwa wijja-h~~
 (it) REL ~~drank~~ ~~coffee with him~~
 '...but I don't know which friend [it was that he drank coffee with].'

Such examples must instead, concludes Leung, be derived by movement from out of the prepositional phrase that occurs within the elided part, as illustrated in (55) (Leung's example (10), p. 336). Leung claims that these facts disprove the Preposition Stranding Generalization.

- (55) John fʔarab gahwa wijja sʔadiq bəs maa ʔarf

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John drank coffee with friend but not know.¹⁵

ʔaj sʻadiq fərab ~~pro~~ ~~gahwa~~ ~~wijja~~ ~~t~~

which friend ~~drank~~ ~~pro~~ ~~coffee~~ ~~with~~ ~~t~~

‘John drank coffee with a friend, but I know know which friend [he drank coffee with].’

However, neither Alghyani nor Leung take the possibility of a CLLD parse of the elided complement clause into account, which does not involve movement. In Arabic, a wh-phrase may be construed as a broad subject, as in (26) and (34). As I mentioned there, neither of those examples are quite as natural as the corresponding clefts in (27) and (35), but if the cleft structure were ungrammatical due the impossibility of supporting a D-linked wh-phrase, and the movement structure were also ungrammatical due to the islandhood of PP, then it stands to reason that the CLLD structure would lend itself to the interpretation of sluicing structures as the only legitimate parse of the elided material. One point in particular militates against a movement analysis like what Leung argues for. Standard Arabic optionally admits the Classical Arabic case morphology that has been lost in the modern dialects. While not all native speakers have complete command of the Classical Arabic case system, judgments about the case of the wh-phrase in sluicing contexts are very robust. If we look at the Standard Arabic counterpart of (55), we find that

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the wh-phrase may bear nominative or accusative case (56), but under no circumstances genitive (57).

- (56) ...*la:kin-ni la: ʔa-ʕrif-u ʔajj-u /-a sʕadi:q-in_i*
but-1S not 1S-know-IND which-NOM /-ACC friend-GEN
ʕarib-a — qahwa maʕa hu_i
drank-3MS coffee with-him
'...but I don't know which friend.'

- (57) **la:kin-ni la: ʔa-ʕrif-u*
but-1S not 1S-know-IND
ʔajj-i sʕadi:q-in_i ʕarib-a — qahwa maʕa — t_i
which-GEN friend-GEN drank-3MS coffee with
('...but I don't know which friend.')

Genitive is the case that all prepositions assign in Arabic. If the wh-phrase moves out of the PP before ellipsis, that wh-phrase should bear genitive. Indeed Merchant's (1999) Form-Identity Generalization dictates exactly this, "that the sluiced wh-phrase must bear the case that its correlate bears", p 183. The fact that genitive is actually impossible in such contexts, as shown in (57), demonstrates that movement is an

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implausible hypothesis, at least for Standard Arabic. But Standard Arabic tolerates the same sluicing structures discussed for Libyan and Emirati Arabic above, just not with genitive case on the sluiced wh-phrase. Instead, we find either nominative, naturally analyzed as the default nominative case that broad subjects get in Arabic, as seen in (8), or accusative, which is arguably assigned by the matrix verb—in this case *ʕarafa* ‘know’—in the ‘Exceptional Case Marking’ configuration; see Chomsky (1981, p. 66). Both of these case marking strategies are compatible with an analysis of sluicing in which the sluiced wh-phrase is base generated at the left periphery of the elided clause, receiving either accusative from its local governor in that position or default nominative. If these considerations stand up to further scrutiny, they mean that Arabic does not contradict the Preposition Stranding Generalization, and it is not possible to strand a preposition in Arabic, even under sluicing.

This does not change the conclusion from comparative constructions that PP is transparent to covert movement. The putative movement in sluicing structures is not covert. It transpires before spell out to the phonetic form, since the wh-phrase must be clause initial prior to ellipsis of the remnant. The fact that PP is a barrier to overt movement undermines a movement analysis of sluicing—Arabic is not an exception to the Preposition Stranding Generalization. But the fact that the target of

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comparison in comparatives can be removed from PP in the logical form means that *covert* movement can cross over PP.

Two possible ways of capturing this disparity between overt and covert movement's sensitivity to a PP boundary are difficult to distinguish empirically. One way is to stipulate that PP is a barrier to overt but not covert movement. This comes close to reintroducing a notion of level of representation in syntax, which although not in the spirit of the contemporary Minimalist Program (Chomsky 1995), was a crucial component of earlier instantiations of the theory of syntax and has perhaps been prematurely discredited. The idea would be that the surface structure is formed at one level, subject to a set of syntactic conditions, and then passed on to another level in which different conditions apply, and whose operations are not visible because they are subsequent to the level that derives the surface structure.

An alternative explanation might take the form of a stipulation that a preposition must have an overt complement in Arabic and other languages that lack preposition stranding. That is, at the point where P is pronounced, its complement must also be pronounced. If its complement is something unpronounceable like a trace, then the derivation crashes. This makes the lack of overt preposition stranding a condition on the phonological form. Ultimately, though, even this second option implicitly makes reference to level-ordering. In comparatives in Arabic, it is possible

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to extract DP from PP leaving a trace. The reason this is possible is that at this point in the derivation, the PP has already been pronounced, and the constraint that requires the complement of P to be pronounced already applied at the time P was pronounced. Even according to this second option, therefore, pronunciation *precedes* extraction. It is unclear, then, whether it is possible to capture the possibility of covert extraction from PP in Arabic without making use of the notion of ordered levels of representation in some form.

3. A-dependencies in clausal comparatives

In this section, I turn to clausal comparatives and specifically a certain kind of clausal comparative that to my knowledge has not been treated previously in the syntactic literature on Arabic. It is of interest because it displays genitive Exceptional Case Marking, that is, case assignment by a head to the subject of that head's complement clause, and is to my knowledge the only case in Arabic where genitive is assigned under Exceptional Case Marking.

In the clausal comparative use of *ʔakθar* 'more', it combines with two clauses. One is the matrix clause and the other is a clause embedded under the preposition *min* 'to' that *ʔakθar* selects as in phrasal

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comparatives. This clause is introduced by the relativizer *ma:* ‘what’. The sequence *min ma:* is typically contracted to *mimma:*. The examples below from the Arabic corpus database (the second modified slightly) illustrate this use of *ʔakθar*.

- (58) *la: tu-tʕa:lib-u:-ni: ʔan ʔa-ʕmal-a ʔakθar*
 not 2-demand-PL-me that 1S-work-SUBJ more
mim-ma: ʔa-qu:m-u bi-h
 from-what 1S-do-IND in-it
 ‘Do not demand of me that I work more than I already do.’

- (59) *ʔa-xfa: fiqda:n δ-δa:tijja ʔakθar mim-ma: ʔa-xfa:*
 1S-fear loss the-identity more from-what 1S-fear
l-maḏa:biḥ wa-l-ʔidʕiḥa:d-a:t
 the-massacres and-the-persecutions
 ‘I fear the loss of identity more than I fear massacres and
 persecution.’

In this use, *ʔakθar* relates two clauses construed as degree predicates. In (59), schematized below, it asserts that clause ❶ holds to a greater extent than ❷, or, the degree to which ❶ holds exceeds the degree

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to which ❷ holds (see esp. Heim 1985, 1999 on English, and Fassi Fehri 1978, McNabb and Kennedy 2011, Abusalim 2016 on Arabic).⁵

- (60) [ʔaxʃa: fiqda:n ʔ-ʔa:tijja]• ʔakθar min
 [ma: ʔaxʃa: l-maða:biħ]•

Of particular interest for the present purposes is a kind of clausal comparative mentioned in passing by Badawi et al. (2016). They state: “When a thing is compared with itself, the second occurrence is *min* + pronoun with no repetition of the first noun” (p. 281). In this case, the repeated gradable predicate is usually also elided (*qa:ʔima* in (61)), although this is not obligatory. They cite the example in (61). Here, the pronominal clitic *-ha:* in *minha:* ‘from it’ is a genitive feminine singular pronoun that refers back to the feminine term *fuhratu* ‘fame’.

- | | | | | |
|------|---------------------------|-----------------------|----------------|--------------------------|
| (61) | <i>ka:n-at</i> | <i>fuhrat-u</i> | <i>tawfi:q</i> | <i>l-ħaki:m</i> |
| | was-3FS | fame-NOM | Tawfiq | Al-Hakim |
| | <i>qa:ʔima</i> | <i>ʃala: l-masraħ</i> | <i>ʔakθar</i> | <i>min-ha:</i> |
| | based | on | the-theater | more from-it.GEN |
| | <i>qa:ʔima</i> | <i>ʃala: ʔalwa:n</i> | <i>l-ʔadab</i> | <i>l-ʔuxra:</i> |
| | based | on | genres | the-literature the-other |

⁵ On this use, then, *ʔakθar* denotes the combinator $\lambda P_{\langle d,t \rangle} \lambda Q_{\langle d,t \rangle} . Q \supset P$, where *P* and *Q* are the denotations of the two clauses *ʔakθar* combines with in the syntax construed as degree predicates $\langle d,t \rangle$, functions from degree to truth values.

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'Tawfiq Al-Hakim's fame was based more on theater than on other genres of literature.'

In this sentence, we are comparing how much Tawfiq Al-Hakim's fame is based on theater with how much Tawfiq Al-Hakim's fame is based on other genres. Semantically, then, what follows *min* in (61) appears to be a reduced version of the clausal standard in (62), modeled after the format of the clausal comparative seen in (58) and (59).

(62) ...*mim-ma:* *hija* *qa:ʔima* *ʕala* *ʔalwa:n*
...from-what she.NOM based on genres

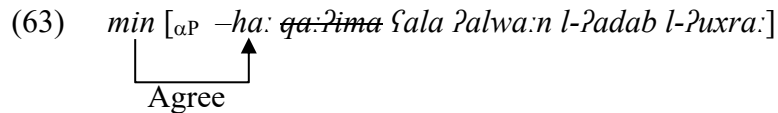
l-ʔadab *l-ʔuxra:*
the-literature the-other

'...than it is based on other genres of literature'

In the reduced version in (61), the relativizer *ma:* is missing and the subject of the standard clause surfaces as a genitive pronoun, rather than in the nominative form typical of subjects. Genitive is assigned by the preposition. This appears to be a case of what Chomsky (1981) calls 'Exceptional Case Marking', in which the pronoun functions semantically as the subject of the clausal complement of *min* but receives case not within its own clause, but from the governor of that clause, namely *min*.

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That is, the case-assigning capacity of *min* reaches into its complement clause and assigns case to the first potential assignee, as schematized in (63). In more contemporary terms, *min* functions as a probe that establishes an ‘Agree’ relation with the pronominal subject of its complement clause, which mediates the transmission of genitive case from *min* to that subject. The question of what category the complement of *min* has in this case, that is, the identity of α in (63), is a matter I treat below.



A few additional examples of the construction in MSA from the Arabic corpus database are shown below.

(64)	ka:n-at	l-xutʕwa	tu-maθθil-u	ʔifa:ra
	was-3FS	the-step	3FS-represent-IND	gesture
	muwazzaha	li-n-nuxba	ʔakthar	min-ha:
	aimed	at-the-elite	more	from-it.GEN
	muwazzaha	li-l-ʕa:mma		
	aimed	at-the-general population		

‘The step represented a gesture aimed more at the elite than at the general population.’

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- (65) *wa-hija muṣadda li-naql l-bari:d*
 and-it intended for-transport the-mail
wa-r-rukka:b ʔakθar min-ha: ~~muṣadda~~
 and-the-passengers more from-it.GEN intended
li-naql l-badʕa:ʔiʕ
 for-transport the-wares

‘And it was intended more for the transport of mail and passengers than for the transport of cargo.’

Wright (1859/1981) cites several examples of the construction from Classical Arabic, including (66).

- (66) *wa-la-ʔana: ʔahamm-u bi-zira:h-i*
 and-PRT-I more.concerned-NOM at-wounds-GEN
rasu:l-i l-la:h-i min-ni:
 prophet-GEN the-God-GEN from-me.GEN
~~*ha:mm-un*~~ *bi-zira:h-i:*
 concerned-NOM at-wounds-my

‘I was more concerned about the wounds of the prophet of God than about my own wounds.’

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It appears that the standard-introducing preposition *min* may combine with either a finite CP introduced by *ma*: ‘what’ that is opaque to Agree relations originating external to it, or with another clause type ‘ α P’ that is transparent to Agree. This contrast is reminiscent of a contrast that Soltan (2007) discusses in connection with the verb *bada*: ‘seem, appear’. Semantically, *bada*: takes a clausal argument and asserts that this clause seems to be true. That clause may be a full fledged CP introduced by the complementizer *ʔanna*, as seen in (67) and (68). In this case, *bada*: appears in its default third person masculine singular form, regardless of the features of the subject of the complement clause (masculine in (67), feminine in (68)).

(67) *ja-bdu*: [_{CP} *ʔanna l-ʔawla:d-a qad ħadʕar-u*:]
3MS-seem that the-boys-ACC PRT arrived-3MPL
‘It seems that the boys arrived.’

(68) *ja-bdu*: [_{CP} *ʔanna l-fataya:t-i qad ħadʕar-na*]
3MS-seem that the-girls-ACC PRT arrived-3FPL
‘It seems that the girls arrived.’

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However, if *ʔanna* is missing and a bare equational sentence appears as complement of *bada:*, *bada:* itself is inflected according to the features of the subject of that complement clause, masculine in (69) and feminine in (71).

(69) *ja-bdu:* [αP *l-ʔawla:d-u mubtahiz-i:n*]
3MS-seem the-boys-NOM happy-MPL.ACC
'The boys seem to be happy.'

(70) *ta-bdu:* [αP *l-fataya:t-u mubtahiz-a:t-in*]
3FS-seem the-girls-NOM happy-FPL-GEN
'The girls seems to be happy.'

Soltan claims that the equational sentences that function as complements to *bada:* in (69)-(70) are transparent to the Agree relation between the probe *bada:* and the subject of its complement clause. This is just the transparency to the Agree relation that we see between *min* and the subject of its equational complement clause in (61)-(66) (transparency for case assignment in comparative constructions and for agreement in *bada:* constructions). On analogy to *bada:*, clausal comparative *min* can combine with either a finite CP (hosting the relativizer *ma:*) or an αP transparent to genitive assignment by *min*, as schematized in (71).

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- (71) *ka:n-at* *fuhrat-u-hu* *qa:ʔima* *ʕala:*
 was-3FS fame-NOM-his based on
l-masraħ *ʔakθar min ...*
 the-theater more from
 [CP *ma:* *hija* *qa:ʔima* *ʕala:* ...]
 what it.NOM based on
 [_αP *-ha:* ~~*qa:ʔima*~~ *ʕala:* ...]
 it.GEN ~~based~~ on
- ‘His fame was based on theater more than (it was based on) other genres of literature.’

The determination of the precise identity of the category α P will require a more detailed examination of the Arabic auxiliary system than can be undertaken here. From the foregoing, I conclude that the clause type that Soltan finds to be transparent to Agree under *bada:* ‘seem’ also occurs under *min* in clausal comparatives, where it is also transparent to Agree, this time for the purposes of case assignment.

4. Conclusions

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This chapter has discussed several conclusions that can be drawn about Arabic syntax from comparative constructions. On one hand, comparative constructions show that Arabic has covert A'-movement subject to the same constraints as are found in other languages. From this data, we can conclude that subjects may undergo A'-movement and also that objects of prepositions may undergo A'-movement. That is, Arabic is a non-preposition stranding language only in the surface structure, not in the logical form. Lastly, the standard-setting preposition *min* 'from' in clausal comparatives is compatible with a finite clause introduced by *ma*: 'what' but also a reduced clause of the type found under *bada*: 'seem' when *bada*: agrees with the subject of that clause. Clausal comparatives with such a reduced standard clause represent the only case of exceptional genitive case marking in the language that I am aware of.

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