The Syntax of Quantifier Float in Standard Arabic

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Abstract

Quantified nominal phrases in standard Arabic display three word-order patterns: Q-DP, short-distance Q-float, and long-distance Q-float. The study investigates whether these patterns are derivationally related or whether they represent different structures. For the Q-DP pattern, the study shows that Q is a head that contains the DP as its complement. For Q-float constructions, the study reviews three major analyses including the stranding analysis, the adjunct analysis, and the labelling analysis, which all share the assumption that Q-float is derived by movement of the associate DP form a position within QP or near QP to its surface position. These previous analyses are shown to be empirically inadequate. Instead, Q-float is argued to be derived by base-generation of the nominal associate in its surface position rather than by NP-movement. Q in Q-float structures is argued to be an NP adjunct, albeit for universal quantifiers. Floating generalized quantifiers are better analyzed as arguments that might include the associate DP as a specifier.

Keywords: Quantifier float, NP-movement, adjunct, specifier, Arabic.

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دراسة نحويّة للمحدّدات الكمّية العائمة في اللغة العربيّة الفصيحة

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ملخص

تأتي شبه الجملة الأسمية التي تحتوي على محدّد كمّي في اللغة العربية الفصيحة على ثلاثة أنماط: محدّد كمّي يتبعه شريك اسمي، محدّد كمّي عائم بشكل قصير، محدّد كمّي عائم بشكل طويل. وتبحث الدراسة فيما إذا كانت هذه الأنماط مرتبطة اشتقاقياً، أم أنّ كلا منها يشكل تركيباً مستقلاً مختلفاً عن الآخر. وقد بينت الدراسة أنّ الأنماط التي تحتوي على محدّد كمّي يتبعه شريك اسمي، يكون المحدّد الكمّي فيها هو رأس، والشريك الاسميّ مكمّل له. أما بالنسبة للتراكيب التي تحتوي على محدّد كمّي عائم، فإنّ الدراسة تستعرض ثلاثة تحليلات رئيسية تتمثل في: تحليل الجنوح، وتحليل الظرف المساعد، وتحليل الوسم، التي تشترك جميعها في فرضية أنّ المحدّد الكمّي العائم مشتق من حركة الشريك الاسميّ من داخل شبه الجملة الاسمية التي تحتوي على محدّد كمّي، أو من مكان قريب منها إلى موقعه السطحي. وتبيّن الدراسة أنّ المحدّد العائم ناتج عن التوليد الأساسي للشريك الاسمي في موضعه السطحي، وليس ناشئاً عن حركة هذا الشريك. وبناء عليه، ترى الدراسة أنّ المحدّد الكمّي العائم هو عبارة عن مساعد ظرفي للشريك الاسميّ، وذلك بالنسبة للمحدّدات الكمّية التي تدل على العموم. أما بالنسبة للمُحدِدات الكمّية العائمة التي لا تدل على العموم فمن الأفضل اعتبارها ركنًا أساسيًا من الجملة، قد تتضمن الشريك الاسميّ كمساعد مخصّص.

الكلمات المفتاحية: المحدّدات الكمّية العائمة، حركة شبه الجملة الإسمية، مساعد ظرفي، مساعد مخصّص، اللغة العربية.

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1. Introduction

Quantified nominal phrases in standard Arabic display three word-order patterns. These patterns depend on the position where the nominal associate can appear in relation to the quantifier. The quantifier may appear first followed by the nominal associate as shown in (1a). We shall refer to this word-order as the Q-DP pattern. Nominal associates in quantifier phrases may also occur to the left of the quantifier in standard Arabic, in which case the quantifier must carry a bound morpheme that reflects the phi-features of the nominal associate. A nominal associate occurring to the left of the quantifier may either be left-adjacent to the quantifier as shown in (1b) or be separated from the quantifier as shown in (1c), displaying what is known as (Q)uantifier-float constructions. Borrowing Zyman terminology [(1)], we shall refer to these two word-orders as the short-distance Q-float pattern and the long-distance Q-float pattern, respectively.

(1) a. nadʒaħa kull-u tˤ-tˤullaab-i fi-l-imtiħaan-i
passed-3SG.M all-NOM DEF-students-GEN in-DEF-exam-GEN
'All students passed the test.'

b. nadʒaħa tˤ-tˤullaab-u kull-u-hum fi-l-imtiħaan-i
passed-3SG.M DEF-students-NOM all-NOM-3PL.M in-DEF-exam-GEN
'All students passed the test.'

c. tˤ-tˤullaab-u nadʒaħ-uu kull-u-hum fi-l-imtiħaan-i
DEF-students-NOM passed-3PL.M all-NOM-3PL.M in-DEF-exam-GEN
'All students passed the test.'

Like the universal quantifier *kull* 'all' in (1) above, generalized quantifiers in standard Arabic may also appear in the Q-DP pattern or float short-distance and long-distance from their nominal associates as shown in the examples in (2) with the generalized quantifier *baʔdˤ* 'some'.

(1) Zyman, Erik, "Quantifier float as stranding: Evidence from Janitzio P'urhepecha", *Natural Language and Linguistic Theory*, vol. 36, 2018, pp. 994-995.

(2) a. baʕdˁ-u n-naas-i yaʕiiʃ-uuna fi-l-kuhuuf-i
some-NOM DEF-people-GEN live-3PL.M in-DEF-caves-GEN
'Some people live in caves.'

b. n-naas-u baʕdˁ-u-hum yaʕiiʃ-uuna fi-l-kuhuuf-i
DEF-people-NOM some-NOM-3PL.M live-3PL.M in-DEF-caves-GEN
'Some people live in caves.'

c. n-naas-u yaʕiiʃu baʕdˁ-u-hum fi-l-kuhuuf-i
DEF-people-NOM live.3SG.M some-NOM-3PL.F in-DEF-caves-GEN
'Some people live in caves.'

Here and throughout the entire paper, the universal quantifier *kull* and the generalized quantifier *baʕdˁ* are used as working examples, but the assumptions that we make about *kull* extend to all universal quantifiers such as *ʤamiiʕ* and *kaafah* which translate into English *all*, and *kila* 'both', and the assumptions we make about *baʕdˁ* extend to all other generalized quantifiers such as *muʕðˁam* 'most' and *aħad* 'one'.

Three major analyses have been advocated for Q-float in Arabic. Shlonsky proposes a stranding analysis that treats Q-float structures in Hebrew and Arabic to be the result of the leftward movement of the nominal associate from a complex constituent that contains the quantifier as the head of the constituent and the nominal associate as its complement [(1)]. Benmamoun argues that a floating quantifier functions as an adjunct for the nominal that it quantifies over or for the predicate that it combines with [(2)]. Alkhalaf proposes that a floating quantifier and its associate do not form a continuous constituent, but rather they are autonomous phrases that are merged together as a symmetric set, something that requires one of the members of the set (the associate) to move in order for the resulting phrase to be labelled [(3)].

(1) Shlonsky, Ur, "Quantifiers as functional heads: A study of quantifier float in Hebrew", *Lingua*, vol. 84, 1991, pp. 159-180.
(2) Benmamoun, Elabbas, "The syntax of quantifiers and quantifier float", *Linguistic Inquiry*, vol. 30, 1999, pp. 621-642.
(3) AlKhalaf, Eman, "Floating quantifiers are autonomous phrases: A movement analysis", *Glossa: A Journal of General Linguistics*, vol. 4, no. 1, 2019, pp. 1-23.

The stranding analysis and the adjunct analysis have focused on the distribution of the universal quantifier *kull* 'all'. The current study will test the claims of these accounts against data with other types of quantifiers. It will turn out that the existing proposals do not extend to all types of quantifiers. The labelling analysis, on the other hand, is basically an attempt to extend the analysis of Q-float in German to standard Arabic. We shall show that while this analysis might work for German, it makes wrong predications about standard Arabic. An alternative account will be proposed. First, we maintain the analysis that Q in the Q-DP pattern is the head of a QP that includes the DP as its complement. Second, we argue that Q-float constructions are derived by base-generation of the nominal associate in its surface position rather that by NP-movement. Finally, we argue that while the adjunct analysis works for universal quantifiers, it does not extend to generalized quantifiers. We propose a different structure for Q-float constructions where Q is a generalized quantifier that treats the quantifier as the head of an argument that may include the associate DP as its specifier.

The paper is structured as follows. In section 2, we present previous accounts of the syntax of the Q-DP pattern. In section 3, we discuss previous accounts of the syntax of Q-float structures. In section 4, we propose an alternative account analysis of Q-float in standard Arabic. Section 5 concludes the study.

2. The syntax of the Q-DP pattern

There is substantial syntactic evidence that quantifiers in the Q-DP pattern are heads. In addition to their ability to host (agreement) clitics [(1)], quantifiers in the Q-DP pattern can carry nominative, accusative, and genitive Case; they also invariably assign genitive Case to the DP that follows them [(2)]. The examples in (3) with the universal quantifier *kull* 'all' [(3)], and the examples in (4) with the generalized quantifier *baʕdˁ* 'some' are illustrative. Note here that the gloss of the examples from other sources is slightly modified to be consistent with the convention used in this paper.

(1) Shlonsky, "Quantifiers as functional heads: A study of quantifier float in Hebrew", pp. 160-162; Benmamoun, "The syntax of quantifiers and quantifier float", p. 622.
(2) Benmamoun, "The syntax of quantifiers and quantifier float", p. 622.
(3) Benmamoun, "The syntax of quantifiers and quantifier float", p. 623.

(3) a. kull-u tˤ-tˤullaab-i ʤaaʔ-uu
all-NOM the-students-GEN came-3PL.M
'All the students came.'

b. raʔay-tu kull-a tˤ-tˤullaab-i
saw-1S all-ACC the-students-GEN
'I saw all the students.'

c. kitaab-u kull-i tˤ-tˤullaab-i
book-NOM all-GEN the-students-GEN
'the book of all the students'

d. maʔa kull-i tˤ-tˤullaab-i
with all-GEN the-students-GEN
'with all the students'

(4) a. baʕdˤ-u tˤ-tˤullaab-i ʤaaʔ-uu
some-NOM the-students-GEN came-3PL.M
'Some of the students came.'

b. raʔay-tu baʕdˤ-a tˤ-tˤullaab-i
saw-1S some-ACC the-students-GEN
'I saw some of the students.'

c. kitaab-u baʕdˤ-i tˤ-tˤullaab-i
book-NOM some-GEN the-students-GEN
'the book of some of the students'

d. maʔa baʕdˤ-i tˤ-tˤullaab-i
with some-GEN the-students-GEN
'with some of the students'

Given that quantifiers in Arabic display the properties of heads, the quantifier in the Q-DP pattern is assumed to be a head with the DP that follows as its complement as schematized in the structure in Figure 1 (1).

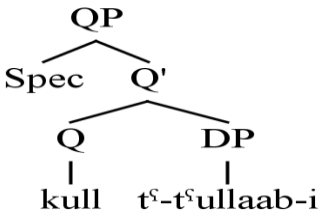

Figure 1: The Q-DP pattern

3. Previous analyses of Q-float

3.1 The stranding analysis

The standing analysis argues that Q-float results from the movement of the DP complement of the quantifier to a position to the left of the quantifier (2). Along the lines of this proposal, Shlonsky proposes that Q-float constructions with the quantifier *kol* 'all' in Hebrew and its equivalent *kull* 'all' in Arabic derives from the Q-DP pattern (3). Specifically, building on Sportiche's movement analysis (4), he suggests that the short-distance Q-float pattern is simply derived by movement of the nominal associate from the complement

(1) Shlonsky, "Quantifiers as functional heads: A study of quantifier float in Hebrew", p. 163; Benmamoun, "The syntax of quantifiers and quantifier float", p. 623; AlKhalaf, "Floating quantifiers are autonomous phrases: A movement analysis", p. 16.

(2) Giusti, Giuliana, "The syntax of floating 'alles' in German", in *Issues in Germanic syntax*, edited by Wim Kosmeijer, Werner Abraham & Eric Reuland, Mouton/Walter de Gruyter, New York/Berlin, 1990, pp. 327-350; Merchant, Jason, "Object scrambling and quantifier float in German", in *Proceedings of NELS 26*, edited by Kiyomi Kusumoto, Graduate Student Linguistics Association, Amherst, 1996, pp. 179-193; Cinque, Guglielmo, *Adverbs and functional heads*, Oxford University Press, Oxford, 1999, pp. 116-120; McCloskey, James, "Quantifier float and wh-movement in an Irish English", *Linguistic Inquiry*, vol. 31, 2000, pp. 57-84; Bošković, Željko, "Be careful where you float your quantifiers", *Natural Language and Linguistic Theory*, vol. 22, no. 4, 2004, pp. 681-742; Zyman, Erik, "Quantifier float as stranding: Evidence from Janitzio P'urhepecha", *Natural Language and Linguistic Theory*, vol. 36, 2018, pp. 991-1034; among others.

(3) Shlonsky, "Quantifiers as functional heads: A study of quantifier float in Hebrew", pp. 164-165.

(4) Sportiche, Dominique, "A theory of floating quantifiers and its corollaries for constituent structure", *Linguistic Inquiry*, vol. 19, 1988, pp. 425-449.

position of Q to Spec,Q as shown in Figure 2. The main argument for the standing analysis is the obligatory presence of the agreement clitic on the quantifier in Q-float constructions. The quantifier must carry a clitic with phi-features that match those of the nominal associate in Q-float constructions because the nominal associate is in a Spec-head agreement relation with the quantifier in this pattern.

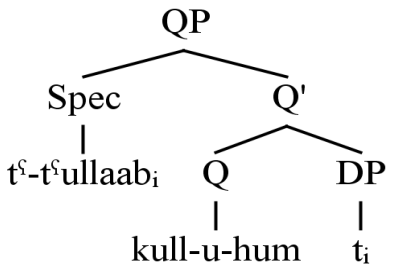

Figure 2: Short-distance Q-float according to the standing analysis

Shlonsky argues that the stranding analysis carries over to long-distance Q-float constructions; the nominal associate could move to a higher position to the left of the quantifier via Spec,Q as shown in the representation in Figure 3 [(1)].

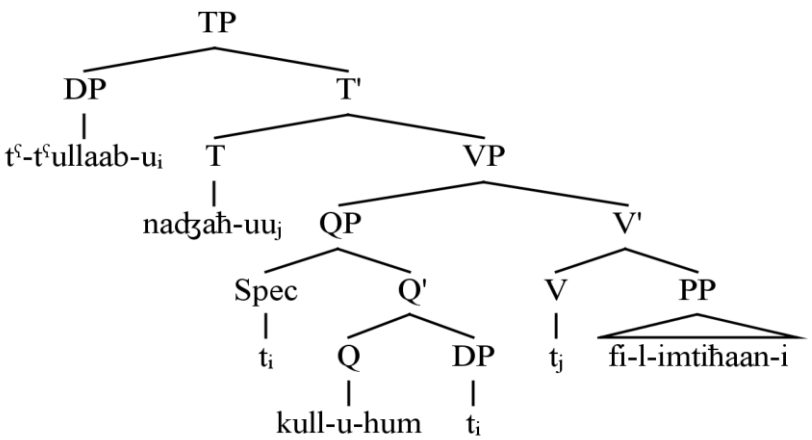

Figure 3: Long-distance Q-float according to the standing analysis

(1) Shlonsky, "Quantifiers as functional heads: A study of quantifier float in Hebrew", p. 169.

3.2 The adjunct analysis

The adjunct analysis was proposed as an alternative to the stranding analysis. According to this analysis a floating quantifier functions as an adjunct that modifies its associate NP or the predicate that it combines with [(1)]. One attempt to extend this analysis to Arabic is Benmamoun's [(2)]. Benmamoun claims that the Q-DP pattern is based on a structure where the quantifier functions a head and the nominal associate functions as its complement. However, Q-float derives from a different structure where the DP functions the head of the whole projection and the quantifier functions as an NP adjunct as shown in Figure(4)[(3)].

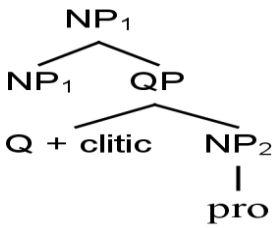

Figure 4: Q-float according to the adjunct analysis

(1) Kayne, Richard, *French syntax: The transformational cycle*, MIT Press, Cambridge, MA, 1975, pp. 1-38; Dowty, David & Belinda Brodie, "A semantic analysis of "floated" quantifiers in a transformationless grammar", in *Proceedings of WCCFL 3*, edited by Mark Cobler, Susannah MacKaye & Michael T. Wescoat, Stanford Linguistics Association, Stanford, 1984, pp. 75-90; Miyagawa, Shigeru, *Syntax and semantics: Structure and case marking in Japanese*, vol. 22, Academic Press, San Diego, 1989, pp. 19-79; Sag, Ivan A. & Janet Dean Fodor, "Extraction without traces", in *Proceedings of the West Coast conference on formal linguistics 13*, edited by Raul Aranovich, William Byrne, Susanne Preuss & Martha Senturia, CSLI Publications, Stanford, 1994, pp. 365-384; Baltin, Mark R, "Floating quantifiers, PRO, and predication", *Linguistic Inquiry* vol. 26, 1995, pp. 199-248; Bobaljik, Jonathan David, *Morphosyntax: The syntax of verbal inflection*, Doctoral dissertation, MIT, Cambridge, MA, 1995, pp. 193-249; Torrego, Esther, "Experiencers and raising verbs", in *Current issues in comparative grammar*, edited by Robert Freidin, Kluwer, Dordrecht, 1996, pp. 101-120; Hoeksema, Jacob, "Floating quantifiers, partitives and distributivity", in *Partitives: Studies on the syntax and semantics of partitive and related constructions*, edited by Jacob Hoeksema, De Gruyter Mouton, Berlin, New York, 2011, pp. 57-106; Brisson, Christine, *Distributivity, maximality and floating quantifiers*, doctoral dissertation. Rutgers University, New Brunswick, NJ, 1998, pp. 182-239; Kim, Jong Bok & Jaehyung Yang, "Processing Korean numeral classifier constructions in a type feature structure grammar, in *Proceedings of the international conference on text, speech and dialogue*, edited by Petr Sojka, Ivan Kopecek & Karel Pala, Springer, 2006, pp. 103-110, among others.

(2) Benmamoun, "The syntax of quantifiers and quantifier float", pp. 621-642.

(3) Benmamoun, "The syntax of quantifiers and quantifier float", p. 636.

The bound clitic on the quantifier in the structure in Figure 4 is assumed to be the realization of an agreement relation between the quantifier and a null pronominal in the complement position of QP. Thus, the agreement between the quantifier and its nominal associate is indirect due to the fact that the pronominal in the complement position of QP is co-indexed with the nominal associate. NP_1 in Figure 4 can be either a lexical NP or a null pronominal. Long-distance Q-float constructions are assumed to be derived by movement of the nominal associate from NP_1 rather than from within QP.

3.3 The labelling analysis

Adopting Ott's analysis of split topics and Q-float in German [(1)], Alkhalaf (2019) proposes that a floating quantifier and its associate do not form a continuous constituent, but rather they are autonomous phrases that are merged together as a symmetric set, something that requires one of the members of the set (the associate) to move in order for the resulting phrase to be labelled and integrated into the structure following the labelling analysis by Chomsky [(2)], as shown in the representation in Figure 5 [(3)].

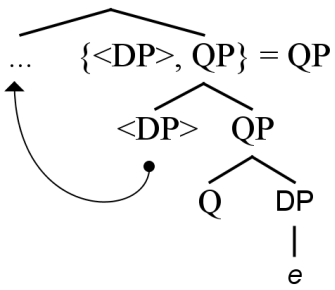

Figure 5: Q-float according to the labelling analysis

Floating quantifiers are considered as elliptical elements according to the structure in Figure 5. The clitic on the quantifier is suggested to be a result of

(1) Ott, Dennis, *Local instability: Split topicalization and quantifier float in German,* de Gruyter, Berlin, Germany, 2012; Ott, Dennis, "Symmetric merge and local instability: Evidence from split topics", *Syntax*, vol. 18, 2015, pp. 157-200.

(2) Chomsky, Noam, "Problems of projection", *Lingua,* vol. 130, 2013, pp. 33-49.

(3) AlKhalaf, Eman, "Floating quantifiers are autonomous phrases: A movement analysis", p. 16.

feature matching between the two nominal members of the symmetric set prior to movement.

To conclude this section, all of the three previous analyses of Q-float in Arabic share the assumption that Q in the Q-DP pattern is a head of a QP that includes the DP as its complement. They also share the assumption that Q-float constructions are derived by movement of the associate DP form a position within QP or near QP to its surface position. In the reminder of this paper, we shall provide a novel analysis of Q-float in standard Arabic. We basically argue that Q-float is derived by base-generation of the nominal associate in its surface position rather than by NP-movement. We further argue that the adjunct analysis fares better than the other two analyses, albeit for floating universal quantifiers. Floating generalized quantifiers show syntactic relations that are different from the syntactic relations of floating universal quantifiers, calling for a different analysis.

4. An alternative analysis

In this section we present an alternative analysis of Q-float in standard Arabic. For the Q-DP pattern, we maintain the analysis that the quantifier is a head and that the DP functions as its complement as represented in Figure (1) above. However, we suggest that Q-float is derived by base-generation of the nominal associate in its surface position rather than by NP-movement. We further argue that while the adjunct analysis whereby a floating quantifier is assumed to function as an adjunct for its nominal associate works for universal quantifiers, it does not extend to generalized quantifiers. Instead, we argue that floating generalized quantifiers function as heads of an argument projection that may include the nominal associate as a specifier.

4.1 Q-float is base-generation

We have seen that previous analyses suggest that Q-float in Arabic is the result of the movement of the DP associate of the quantifier from within QP or from a position near QP. On the contrary, the current study argues that Q-float is derived by base-generation of the nominal associate in its surface position rather than by NP-movement. We support this assumption with facts from island constraints and Case assignment.

4.1.1 Island constraints

Q-float constructions in standard Arabic violate island constraints. For example, the universal quantifier *kull* 'all' can be separated from its associate by an adjunct island, a wh-island, and a complex NP island as shown in the following examples.

(5) a. l-ħaliib-u, ɣaadara l-walad-u qabla ʔan yaʃraba-hu
DEF-milk-NOM left.3SG.M DEF-boy-NOM before COMP drink.3SG.M-3SG.M
kull-a-hu
all-ACC-3SG.M
'The milk, the boy left before drinking all of it.'

b. ʔayy-u kutub-in tasaaʔala Kareem-un limaaða
which-NOM books.F-GEN wondered.3SG.M Kareem-NOM why
l-bint-u lam taqraʔ-ha kull-a-ha
DEF-girl-NOM NEG read.3SG.F-3PL.F all-ACC-3PL.F
'Which books Kareem wondered why the girl didn't read all of them?'

c. l-awraaq-u, Salma sˤaddaq-at iʃaaʕat-a ʔanna Kareem-an
DEF-papers.F-NOM Salma believed-3SG.F rumor-ACC COMP Kareem-ACC
ʔadˤaʔa-ha kull-a-ha
lost.3SG.M-3SG.F all-ACC-3SG.F
'The papers, Salma believed the rumor that Kareem lost all of them.'

The examples in (5) show that when a floating universal quantifier is separated from its associate by the boundary of a movement island, a clitic is required not only on the quantifier, but also on its governing head. Alkhalaf entertains two explanations for the obligatory presence of the clitic on the governing head of the floating quantifier, both of which are meant to show that Q-float constructions in standard Arabic do not violate island constraints [(1)]. She argues that the clitic on the governing head might be required to ameliorate the island violation in accordance with the resumption strategy in Arabic grammar

(1) AlKhalaf, Eman, "Floating quantifiers are autonomous phrases: A movement analysis", p. 8-9.

(1). She also suggests that it might be the clitic on the governing head that the floating quantifier associates with rather than the relevant nominal. This line of reasoning is, however, problematic for two reasons. First, a floating universal quantifier always requires a clitic on the governing head of the quantifier regardless of whether it is separated from the quantifier by an island or not as shown in the example in (6).

(6) l-kitaab-u, qaraʔ-tu-hu kull-a-hu
DEF-book-NOM read-1SG-3SG.M all-ACC-3SG.M
'The book, I read all of it.'

Second, in contrast to floating universal quantifiers, floating generalized quantifiers that are separated from their associates by the boundary of a movement island require a clitic only on the quantifier but not on its governing head as shown in the examples in (7).

(7) a. l-ħaliib-u, ɣaadara l-walad-u qabla ʔan yaʃraba
DEF-milk-NOM left.3SG.M DEF-boy-NOM before COMP drink.3SG.M
baʔdˤ-a-hu
some-ACC-3SG.M
'The milk, the boy left before drinking some of it.'

b. ʔayy-u kutub-in tasaaʔala Kareem-un limaaða
which-NOM books.F-GEN wondered.3SG.M Kareem-NOM why
l-bint-u lam taqraʔ baʔdˤ-a-ha
DEF-girl-NOM NEG read.3SG.F some-ACC-3PL.F
'Which books Kareem wondered why the girl didn't read some of them?'

c. l-awraaq-u, Salma sˤaddaqat iʃaaʕat-a ʔanna Kareem-an
DEF-papers.F-NOM Salma believed.3SG.F rumor-ACC COMP Kareem-ACC
ʔadˤaʔa baʔdˤ-a-ha
lost.3SG.M some-ACC-3PL.F
'The papers, Salma believed the rumor that Kareem lost some of them.'

(1) Aoun, Joseph & Elabbas Benmamoun, "Minimality, reconstruction, and PF movement", *Linguistic Inquiry*, vol. 29, 1998, pp. 569-597.

We shall see later in the study that the contrast between floating universal quantifiers and generalized quantifiers in what seems to be clitic doubling is crucial to their analysis. The clitic on the governing head of a floating universal quantifier is argued to be the realization of agreement with a null pronominal that functions as an argument of the governing head for which the floating quantifier functions as an adjunct. The view that clitics in Arabic are realizations of agreement has already been proposed [(1)]. Floating generalized quantifiers, on the other hand, do not require a clitic on the governing head because they themselves function as arguments of the governing head.

The data presented in this subsection argue against the assumption that Q-float is derived by NP-movement of the nominal associate, whether it is movement from inside QP as proposed by the stranding analysis or from a position near QP as proposed by the adjunct analysis and the labelling analysis. We provide further support for the base-generation analysis of the nominal associate in its surface position in Q-float constructions from Case assignment in the next section.

4.1.2 Case assignment

We have seen that the nominal associate is invariably assigned genitive Case by the quantifier in the Q-DP pattern. This is because the quantifier functions as a head in this pattern and the nominal associate functions as its complement. Case assignment in Q-float constructions, however, is different in the sense that the Case on the nominal associate and the Case on the quantifier vary according to the position that each of these two elements occupy in the structure that includes them. We illustrate with examples with the universal quantifier *kull* 'all' in (8) and the generalized quantifier *baʔdˤ* 'some' in (9).

(1) Shlonsky, Ur, *Clause structure and word order in Hebrew and Arabic: An essay in comparative Semitic syntax*, Oxford University Press, Oxford, 1997, pp. 177-203; Aoun & Benmamoun, "Minimality, reconstruction, and PF movement", pp. 569-597; Jarrah, Marwan, "Record your Agree: A case study of the Arabic complementizer *ʔinn*", *Journal of Linguistics*, vol. 55, no. 1, 2019, pp. 83-122; Jarrah, Marwan, "Complementizer agreement and the T^0-Φ parameter in Jordanian Arabic", *Studia Linguistica*, vol. 74, no. 1, 2020, pp. 139-164.

(8) a. tˤ-tˤullaab-u dʒaaʔ-uu kull-u-hum
DEF-students-NOM came-3PL.M all-NOM-3PL.M
'All the students came.'

b. tˤ-tˤullaab-u, qabal-tu-hum kull-a-hum
DEF-students-NOM met-1SG-3PL.M all-ACC-3PL.M
'The students, I met them all.'

c. tˤ-tˤullaab-u, laʔib-tu maʔa-hum kull-i-him
DEF-students-NOM played-3SG with-3PL.M all-GEN-3PL.M
'The students, I played with all of them.'

(9) a. tˤ-tˤullaab-u dʒaaʔa baʔdˤ-u-hum
DEF-students-NOM came.3SG.M some-NOM-3PL.M
'Some of the students came.'

b. tˤ-tˤullaab-u, qabal-tu baʔdˤ-a-hum
DEF-students-NOM met-1SG some-ACC-3PL.M
'The students, I met some of them.'

c. tˤ-tˤullaab-u, laʔib-tu maʔa baʔdˤ-i-him
DEF-students-NOM played-1SG with some-GEN-3PL.M
'The students, I played with some of them.'

The nominal associate appears in a preverbal position and it has a topical interpretation in all these examples. It is not governed by any Case assigner and is therefore assigned default nominative Case. The status of nominative Case as the default Case in Arabic that is assigned to elements not structurally Case-marked is widely accepted [(1)]. When it is in the domain of a Case assigner,

[(1)] Mohammad, Mohammad, "The problem of subject-verb agreement in Arabic: Towards a solution", in *Perspectives on Arabic linguistics I*, edited by Mushira Eid, John Benjamins, Amsterdam, 1990, pp. 95-125; Mohammad, Mohammad, *Word order, agreement and pronominalization in Standard and Palestinian Arabic*, John Benjamins, Amsterdam, 2000, p. 86; Ouhalla, Jamal, "Verb movement and word order in Arabic", in Verb movement, *edited by* David Lightfoot & Norbert Hornstein, Cambridge University Press, Cambridge, 1994, pp. 41-72; Aoun, Joseph, Elabbas Benmamoun & Lina Choueiri, *The syntax of Arabic*, Cambridge University Press, New York, 2010, p. 43.

though, the nominal associate is assigned structural Case. Consider the following examples where the nominal associate is assigned accusative Case by the complementizer:

(10) a. ʔinna tˤ-tˤullaab-a ʤaaʔ-uu kull-u-hum
COMP DEF-students-ACC came-3PL.M all-NOM-3PL.M
'All the students came.'

b. ʔinna tˤ-tˤullaab-a ʤaaʔa baʔdˤ-u-hum
COMP DEF-students-ACC came.3SG.M some-NOM-3PL.M
'Some of the students came.'

The Case on the floating quantifier, on the other hand, varies depending on its structural position. The floating quantifier appears with nominative Case when it is in the subject position. It appears in the accusative when it is in an object position. It appears in the genitive when it is an object of a preposition.

These facts suggest that the nominal associate and the floating quantifier are not structurally related. Q-float is not derived by leftward movement of the nominal associate from a position from within QP or any other position to a position higher in the structure. Rather, the nominal associate is base-generated in its surface position. This is supported by the condition that movement chains have the same Case position[(1)]. In accordance with this condition, we suggest that a floating quantifier bears Case-marking that is different from the one of the constituent that it associates with because it does not form a movement chain with that constituent.

4.2 Floating Quantifiers as NP adjuncts and arguments

Having established that floating quantifiers are not the remnants of NP-movement from QP, it becomes more plausible to analyze them as adjuncts as suggested by Benmamoun for the quantifier *kull* 'all' [(2)]. In the reminder of this paper, we argue that while the adjunct analysis works for floating universal quantifiers, it does not extend to generalized quantifiers. Floating generalized quantifiers are better analyzed as arguments that may include the relevant

(1) Chomsky, Noam, *Knowledge of language: Its nature, origin, and use,* Praeger, New York, 1986, pp. 132-133.
(2) Benmamoun, "The syntax of quantifiers and quantifier float", pp. 621-642.

nominal associate as a specifier. Benmamoun's main argument for the status of floating universal quantifiers as NP adjuncts comes from Case assignment and phi-agreement. In the reminder of this section, we will discuss these arguments and see how they work for generalized quantifiers in standard Arabic.

4.2.1 Case assignment

In contrast to the Q-DP pattern where the DP is invariably assigned genitive Case by the quantifier, the Case on the DP in the short-distance Q-float pattern varies depending on its structural position. In addition, both the DP and the quantifier are assigned the same Case in the short-distance Q-float pattern. Consider the examples in (11) from Benmamoun [(1)].

(11) a. tˤ-tˤullaab-u kull-u-hum ʤaaʔ-uu
DEF-students-NOM all-NOM-3PL.M came-3PL.M
'All the students came.'

b. raʔay-tu tˤ-tˤullaab-a kull-a-hum
saw-1SG DEF-students-ACC all-ACC-3PL.M
'I saw all the students.'

c. kitaab-u tˤ-tˤullaab-i kull-i-him
book-NOM DEF-students-GEN all-GEN-3PL.M
'the book of all the students'

d. maʔa tˤ-tˤullaab-i kull-i-him
with DEF-students-GEN all-GEN-3PL.M
'with all the students'

Given that it is the DP in the short-distance Q-float pattern that carries the Case that is assigned to the whole projection that includes both the DP and the quantifier, Benmamoun argues that it is then the DP that is the head of the projection and that the quantifier functions as an NP adjunct. The quantifier

(1) Benmamoun, "The syntax of quantifiers and quantifier float", p. 626.

needs to agree in Case with the DP because NP modifiers in Arabic such as adjectives agree in Case as shown in (12) from Benmamoun [(1)].

(12) a. ʤaaʔa tˤ-tˤaalib-u l-ʤadiid-u
came.3SG.M DEF-student-NOM DEF-new-NOM
'The new student came.'

b. raʔay-tu tˤ-tˤaalib-a l-ʤadiid-a
saw-1SG DEF-student-ACC DEF-new-ACC
'I saw the new student.'

c. kitaab-u tˤ-tˤaalib-i l-ʤadiid-i
book-NOM DEF-student-GEN DEF-new-GEN
'the book of the new student'

Generalized quantifiers display the same Case properties in the short-distance Q-float pattern as that of the universal quantifier *kull* 'all' as illustrated in (13).

(13) a. tˤ-tˤullaab-u baʔdˤ-u-hum ʤaaʔ-uu
DEF-students-NOM some-NOM-3PL.M came-3PL.M
'Some of the students came.'

b. raʔay-tu tˤ-tˤullaab-a baʔdˤ-a-hum
saw-1S DEF-students-ACC some-ACC-3PL.M
'I saw some of the students.'

c. kitaab-u tˤ-tˤullaab-i baʔdˤ-i-him
book-NOM DEF-students-GEN some-GEN-3PL.M
'the book of some of the students'

d. maʔa tˤ-tˤullaab-i baʔdˤ-i-him
with DEF-students-GEN some-GEN-3PL.M
'with some of the students'

(1) Benmamoun, "The syntax of quantifiers and quantifier float", p. 632.

These examples seem to provide support for the assumption that the NP adjunct analysis of the floating quantifier *kull* 'all' extends generalized quantifiers. It is always the DP in short-distance Q-float structures that carries the Case that is assigned to the whole projection that includes both the DP and the quantifier. Thus, it is the DP that is the head of the projection and the quantifier functions as an NP adjunct. The quantifier needs to agree in Case with the DP because NP modifiers in Arabic agree in Case. In the next section, we argue that this reasoning is not on the right track. In spite of the fact that both universal quantifiers and generalized quantifiers display the same Case assignment properties in the short-distance Q-float pattern, they behave differently with regard to agreement.

4.2.2 Agreement

Benmamoun provides further support for the status of floating quantifiers as NP adjuncts from agreement facts in Arabic [(1)]. First, a floating quantifier that associates with a pronominal element requires a clitic to appear on both the quantifier and the governing head displaying what looks like a doubling phenomenon as shown in the examples in (14).

(14) a. qaabal-tu-*(hum) kull-a-hum
met-1SG-3PL.M all-ACC-3PL.M
'I met them all.'

b. kutub-u-*(hum) kull-i-him
book-NOM-3PL.M all-GEN-3PL.M
'The books of all of them.'

c. maʕa-*(hum) kull-i-him
with-3PL.M all-GEN-3PL.M
'with them all.'

Benmamoun argues that this cannot be clitic doubling because, first, clitic doubling is not allowed in standard Arabic as shown in (15a) [(2)], and second,

(1) Benmamoun, "The syntax of quantifiers and quantifier float", pp. 637-640.
(2) Benmamoun, "The syntax of quantifiers and quantifier float", p. 633.

because the clitic on the governing head cannot co-occur with a lexical NP as shown in (15b).

(15) a. *kitaab-u-haa li-l-muʕallima
book-NOM-3SG.F to-DEF-teacher

b. *qaabal-tu-hum ʔal-awlaad-i kull-i-him
met-1SG-3PL.M DEF-boys-GEN all-GEN-3PL.M

Instead, the doubling phenomena follows from the status of the floating quantifier as an NP adjunct rather than the head of the whole projection. The main argument of the governing head is a null pronominal rather than QP, hence the obligatory presence of the agreement clitic on the governing head. We support this conclusion by the fact that the clitic on the governing head is obligatory when the object is an overt pronominal as shown in the examples in(16).

(16) a. qaabal-tu-*(hum) hum kull-a-hum
met-1SG-3PL.M them all-ACC-3PL.M
'I met them all.'

b. kutub-u-*(hum) hum kull-i-him
book-NOM-3PL.M them all-GEN-3PL.M
'The books of all of them.'

c. maʕa-*(hum) hum kull-i-him
with-3PL.M them all-GEN-3PL.M
'with them all.'

Benmamoun provides further support for this analysis from the well-known agreement asymmetry between preverbal and post-verbal subjects in Standard Arabic. While a post-verbal lexical subject in standard Arabic requires partial agreement on the verb in person and gender but not in number as shown in (17),

a preverbal lexical subject requires full agreement on the verb in person, gender, and number as shown in (18) [(1)].

(17) a. ʔakal-at tˤ-tˤaalibaat-u
ate-3SG.F DEF-students.PL.F-NOM
'The students ate.'

b. *ʔakal-na tˤ-tˤaalibaat-u
ate-3PL.F DEF-student.PL.F-NOM

(18) a. tˤ-tˤaalibaat-u ʔakal-na
DEF-student.PL.F-NOM ate-3PL.F
'The students ate.'

b. *tˤ-tˤaalibaat-u ʔakal-at
DEF-student.PL.F-NOM ate-3SG.F

When the subject is a pronominal, however, the verb must always carry full agreement regardless of whether it appears in post-verbal or preverbal position as shown in (19) and (20), respectively.

(19) a. ʔakal-na hunna
ate-3PL.F they.3PL.F
'They ate.'

b. *ʔakal-at hunna
ate-3SG.F they.3PL.F

(20) a. hunna ʔakal-na
they.3PL.F ate-3PL.F
'They ate.'

b. *hunna ʔakal-at
they.3PL.F ate-3SG.F

(1) Benmamoun, "The syntax of quantifiers and quantifier float", p. 635.

In the context of the Q-DP pattern and the short-distance Q-float pattern in post-verbal subject position, Standard Arabic exhibits partial agreement where the verb agrees with the post-verbal subject in person and gender, but not in number as shown in (21) [(1)].

(21) a. ʤaaʔa kull-u tˁ-tˁullaab-i
came.3SG.M all-NOM DEF-students-GEN
'All the students came.'

b. ʤaaʔa tˁ-tˁullaab-u kull-u-hum
came.3SG.M the-students-NOM all-NOM-3PL.M
'All the students came.'

However, when only the floating quantifier is present in post-verbal subject position, Standard Arabic exhibits full agreement where the verb carries person, gender, and number inflection as shown in (22) [(2)].

(22) a. ʤaaʔ-uu kull-u-hum
came-3PL.M all-NOM-3PL.M
'They all came.'

b. *ʤaaʔa kull-u-hum
came.3SG. M all-NOM-3PL.M

Benmamoun argues that these observations follow straightforwardly from the status of floating quantifiers as NP adjuncts. In the Q-DP pattern in (21a) and the short-distance Q-float pattern in (21b), the post-verbal subject is the QP and the DP, respectively. The subject is lexical in both cases, hence partial agreement on the verb. When only the floating quantifier is present in post-verbal subject position as in (22), in contrast, the subject is a null pronominal and the quantifier is an NP adjunct, hence full agreement on the verb.

Although the adjunct analysis provides a straightforward account of the agreement facts discussed above, it is limited to the quantifier *kull*. We shall

(1) Benmamoun, "The syntax of quantifiers and quantifier float", p. 635.
(2) Benmamoun, "The syntax of quantifiers and quantifier float", p. 635.

now show that while this analysis works for floating universal quantifiers other than *kull*, it makes wrong predictions about agreement in the context of floating generalized quantifiers. Other floating universal quantifiers behave just like *kull* 'all' with regard to agreement. Floating universal quantifiers other than *kull* 'all' require a clitic on both the governing head and the quantifier when they associate with a pronominal. We illustrate with the quantifier *ʤamiiʕ* 'all' in(23).

(23) a. qaabal-tu-*(hum) ʤamiiʕ-a-hum
met.3SG-3PL.M all-ACC-3PL.M
'I met all of them.'

b. kutub-u-*(hum) ʤamiiʕ-i-him
book-NOM-3PL.M all-GEN-3PL.M
'The books of all of them.'

c. maʕa-*(hum) ʤamiiʕ-i-him
with-3PL.M all-GEN-3PL.M
'with them all.'

In addition, when only a floating quantifier is present in post-verbal subject position, full agreement is required on the verb as shown in (24).

(24) a. ʤaaʔa-uu ʤamiiʕ-u-hum
came-3PL.M all-NOM-3PL.M
'They all came.'

b. *ʤaaʔa ʤamiiʕ-u-hum
came.3SG.M all-NOM-3PL.M

As we have shown for *kull*, these facts follow from the adjunct analysis of floating quantifiers. The clitic on the governing head in the examples in (23) is obligatory because it realizes an agreement relation between the governing head and a null pronominal that functions as a head that includes the QP as an adjunct. Full agreement on the verb in (24) follows if we assume that the subject is a null pronominal that is a head which includes the QP as an adjunct.

Floating generalized quantifiers, on the other hand, do not display the same agreement relations as that of floating universal quantifiers. Unlike floating universal quantifiers, floating generalized quantifiers do not impose a doubling phenomenon when they associate with a pronominal. Floating generalized quantifiers that associate with a pronominal require a clitic on Q but not on the governing head. The examples with the generalized quantifier *baʔdˁ* 'some' in (25) are representative.

(25) a. qaabal-tu-(*hum) baʔdˁ-a-hum
met.3SG-3PL.M some-ACC-3PL.M
'I met some of them.'

b. kutub-u-(*hum) baʔdˁ-i-him
book-NOM-3PL.M some-GEN-3PL.M
'The books of some of them.'

c. maʕa-(*hum) baʔdˁ-i-him
with-3PL.M some-GEN-3PL.M
'with some of them.'

In order to account for this observation, we argue that, unlike floating universal quantifiers, floating generalized quantifiers are heads of a QP that includes their associate DP as a specifier as schematized in Figure (6).

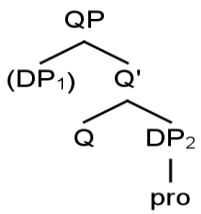

Figure 6: Floating generalized quantifiers

It follows from the structure in Figure 6 that no clitic doubling is imposed in the examples in (25) because it is QP that is the main argument of the governing head rather than a null pronominal. Since QP in (25) is lexical, no agreement clitic is required on the governing head. A clitic is required only on the

quantifier as a realization of agreement between Q and a null pronominal that is co-indexed with the nominal associate of the quantifier.

We provide further support for this analysis from subject agreement. Unlike floating universal quantifiers, floating generalized quantifiers require partial agreement rather than full agreement on the verb in post-verbal subject position. The examples with the generalized quantifier *baʔdˤ* 'some' in (26) are representative.

(26) a. ʤaaʔa baʔdˤ-u-hum
came.3SG.M some-NOM-3PL.M
'Some of them came.'
b. *ʤaaʔa-uu baʔdˤ-u-hum
came-3PL.M some-NOM-3PL.M

No full agreement is required on the verb in (26) because it is the lexical QP that is the subject of the sentence rather than a null pronominal.

5. Conclusion

This paper is an attempt to provide a syntactic analysis of Q-float in standard Arabic. The paper maintains previous analyses of the quantifier in the Q-DP pattern as the head of a quantifier phrase that includes the DP as its complement. Q-float constructions are argued to be derived by base-generation of the nominal associate in its surface position rather than by NP-movement. Floating universal quantifiers display agreement relations that support their status as NP adjuncts [(1)]. Floating generalized quantifiers, on the other hand, display different agreement relations that support their status as arguments.

The importance of the current study and its contribution to the existing theory of Q-float resides in two points. First, the study shows that floating universal quantifiers and floating generalized quantifiers display an interesting dichotomy regarding their syntactic relations that calls for different analyses. This dichotomy has not been documented before in the literature of Q-float in Arabic or in other languages. Previous literature takes all types of floating quantifiers to form a natural class, an assumption that the current study has shown to be inaccurate. Second, the study shows that floating quantifiers are not necessarily optional constituents that function as adjuncts or stranded elements, they can rather function as core arguments as has been shown for floating generalized quantifiers.

(1) Benmamoun, "The syntax of quantifiers and quantifier float", pp. 621-642.

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