

ON FLOATING QUANTIFIERS IN ENGLISH AND ARABIC

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أدوات القياس المتحركة في اللغتين الإنجليزية والعربية

ملخص من الأسئلة الملحة في مجال تركيب أدوات القياس: كيف يمكن إعداد تفسير نظري للتركيب النحوي لأدوات القياس المتحركة التي توجد في اللغات الطبيعية. إن هذا البحث يبحث في تفسير موقع أداة القياس المتحركة "كل" في الجملة المعقدة المتعدية لمفعولين في اللغة الإنجليزية والعربية و يوضح التشابه و الاختلاف في تركيبها في اللغتين ، علماً بأن الدراسة تقوم نظرياً على نظرية التحكم و الربط لينتشمسكي (1986 أ.ب) (1989) و آخرين . إن هذا البحث يحقق في موقع أداة القياس "كل" على أساس النظريات الفرعية (السين الباريه و نظرية الحالة) مع العلم أنه من خلال عرض تركيب " كل/ all " يتبين أن اللغتين تختلفان بخصوص وجود أداة القياس المحجوزة من عدمه و حالة إعراب كل/ all .

Abstract One of the recurring questions in the literature of quantifiers has been how to provide a theoretical interpretation for the syntax of floating quantifiers that human languages exhibit. This question becomes crucial when set within a universalist grammar theory. This paper attempts to account for the syntactic position of the floating quantifiers (FQ) *all* and its Arabic equivalent *kul* in ditransitive and dative clauses. It also clarifies their symmetries and asymmetries in both English and Standard Arabic (SA). The study will be theoretically run within the framework of Government Binding Theory of Chomsky (1996a,b), (1989), among others. It particularly investigates the position of FQs in terms of X-bar and Case modules. Through reflecting an identical architecture, the two languages exhibit differences in the application of quantifier stranding and Case assignment.

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ON FLOATING QUANTIFIERS

1. Introduction

This paper attempts to account for the syntax of the floating quantifier ‘*all*’ and its standard Arabic (SA) equivalent ‘*kul*’ in ditransitive and dative clauses within the framework of government-binding theory of Chomsky (1980-1989). The main focus is on the symmetries and asymmetries between these quantifiers in both languages. The asymmetries will be shown to follow from the syntactic function of this construction in both languages. Additionally such asymmetries cover quantifier stranding and Case assignment. To achieve this goal adequately, the study is initiated with describing pre-determiner quantifiers.

The topic starts with describing the theoretical framework adopted (Section 1.1). Section 2 demonstrates a structural description of pre-determiner quantifiers in English and Arabic. Section 3 is restricted to quantifiers syntactic function. Section 4 describes floating quantifiers in English and Arabic ditransitive and dative clauses. Section 5. introduces a syntactic analysis for the position of floating quantifiers in English and Arabic. Section 6 is specified for summary remarks.

1.1. Theoretical background

This study is theoretically based on the sub-theories of universal grammar¹: X-bar and Case theories. Such theories are briefed here for facilitating understanding the analysis of the study.

1.1.1 X-bar Theory

X-bar theory (=Principles and Parameters theory) is a basic module of GB. It is centrally concerned with Deep Structure (DS) representations and the imposition of certain constraints on them. It may also be involved at Surface Structure (SS) in cases of adjunction. Horrocks (1987:101) maintains: ‘X-bar theory provides principles for the projection of phrasal categories from lexical categories and imposes conditions on the hierarchical organizations of categories in the form of general schemata.’

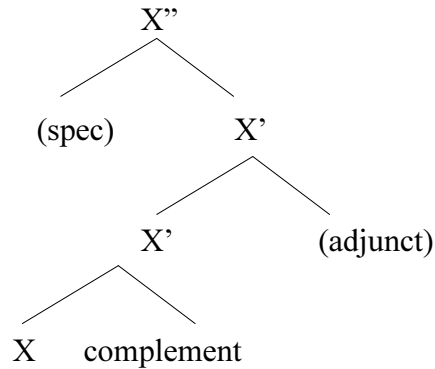
Such schemata can be formulated according to Chomsky (1989) in (1) below:

- 1a. $X' = XX''^*$
- b. $X' = X'X''^*$
- c. $X'' = X''^*X'$

ON FLOATING QUANTIFIERS

The schemata in (1) can be represented diagrammatically as in (2) below:

2.



The maximal projection XP (X''), in (1), is projected from the first level projection X' (X -bar) combining with an optional specifier. Chomsky (1986a). The X' is optionally projected from another X' which combines with an adjunct. Finally, X' is projected from X (the head) and a complement.

According to Amer (1996), the * in (2) indicates zero or more occurrences and insures among other things that an intransitive, a transitive, and a ditransitive head can be followed by zero, one or two complements.

Furthermore, the order of the head and its complement and that of the X' projection and its specifier are subject to cross linguistic variation; this variation is generally assumed to follow from the values assigned to the head parameter in (3a) below and to the specifier parameter in (3b):

3a. The Head Parameter

- (i) $X' = YP2 - X$ (head final)
- (ii) $X' = X - YP2$ (head initial)

3b. The Specifier Parameter

- (i) $XP = YP - X'$ (Specifier initial)
- (ii) $XP = X' - YP$ (Specifier final)

These principles show that a large range of structures of various languages may be accounted for in a straightforward way. These could include English, Arabic, Turkish, Japanese, etc.

Further, we might suppose that an adjunct parameter can have two values:

4)a. Adjunct final

b. Adjunct initial

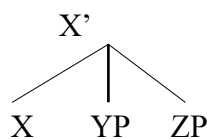
These parameters and values given above define logical space of eight possible phrase structures. For example, English and Arabic are head initial languages, while Dutch and Japanese are head final. (cf Hoekstra, 1991, and

Souali, 1992). English and Arabic are also specifier-initial languages while Bulgarian is a specifier-final language. (cf Travis, 1989, and Atkinson 1992).

A further observation related to X-bar theory is that the variable X, according to Chomsky (1986b), and Abney, (1987), among others, ranges over not only lexical categories e.g. N,V,A,P, etc, but also over non-lexical categories namely Inflection (I), Complementizer (C), Determiner (D). Other functional categories are added recently within the Split. Infl framework... namely agreement (Agr), tense (T), aspect (ASP), negation (NEG), quantifier (Q). (cf. Shlonsky, 1981, Chomsky, 1991, and many others).

Furthermore, the X-bar theory described above allows a single head to have more than one complement. Therefore, complements are considered sisters of heads. Consistent with this, the representation of an X with two or more complements is allowed to be as in (5):

5.



The structure in (5) represents what so called the multiple complement hypothesis (MCH). In dealing with double object construction this hypothesis leads to the adoption of the flat structure in (5) above (cf Chomsky, 1981: 48, Barss and Lasnik, 1986, Baker, 1988b, Napoli, 1992, among others).

The next point is related to another sub-theory, which operates at S-structure, namely Case theory.

1.1.2. Case Theory

Case theory is basically responsible for determining the distribution of NPs and possibly other maximal projections. It requires that all lexical NPs (NPs that are phonetically realized) must be marked for Case or else they will fall victim of the Case Filter, Chomsky (1986a).

6) *NP if it has a phonetic matrix but no Case

Case assignment and Case realization:

Languages differ in the number of overt Cases they involve; for instance, Latin has six Cases appearing on nouns and adjectives. German has four Cases appearing on determiners. Chinese has none. Finnish has sixteen Cases, and English and Arabic have three Cases.

ON FLOATING QUANTIFIERS

As far as English and Arabic are concerned, Cases are classified into three types: nominative, accusative and genitive. Such Cases may be assigned as follows:

- If Inflection contains TNS, nominative Case is assigned to the [NP, S] position
- A verb assigns accusative Case to [NP, VP]
- A preposition assigns accusative or Oblique case to [NP, PP]
- Nouns and adjectives do not assign Case.
- Case is assigned under government with the exception of genitive.
- Genitive Case is assigned in the structure [NP -X].
Sells,(1987:53)

It is worth mentioning that the subject of the sentence is assigned nominative Case under government by INFL in VSO languages such as Modern Standard Arabic, and under spec head agreement in SVO languages like English.

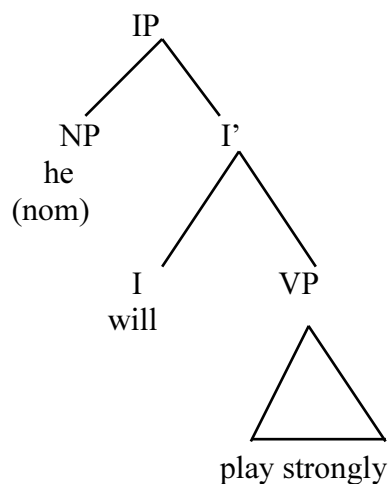
Secondly, verbs and prepositions assign Case to their objects. The former assign accusative Case while the latter assign some kind of oblique Case such as dative. Further, transitive verbs but not nouns assign objective Case; hence, only the verbal object appears as a bare NP", Weibeluth (1995:76).

Thirdly, as mentioned above the nominative Case occurs on the subject of a finite clause and this can be illustrated as below:

7. He will play strongly.

This sentence can be diagrammatically represented as follows:

8.



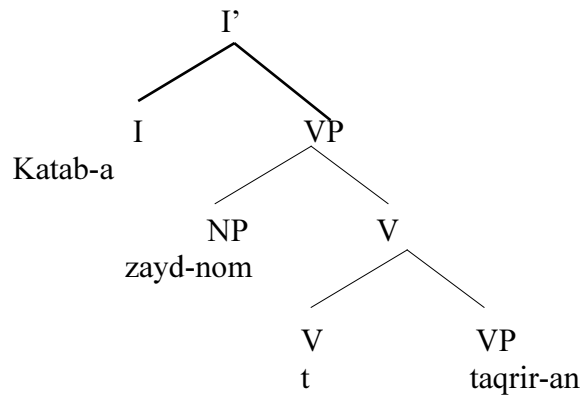
The NP subject *he* is marked nominative because it is in spec-head configuration with a finite INFL.

To indicate nominative Case assigned under government let us consider the example from SA word order in (9):

9. katab-a zayd-un taqrir-an.
 Wrote Zayd-nom report-acc.
 ‘Zayd wrote a report’

This example can be represented structurally as follows:

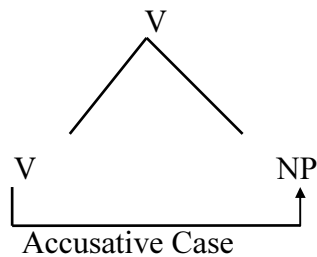
10.



The subject Zayd in (10) is assigned nominative Case structurally under government by the inflected verb.

Fourthly, an NP is marked accusative if governed by a transitive or ditransitive verb. Given that, the standard configuration under which the accusative Case assignment occurs is as follows:

11.



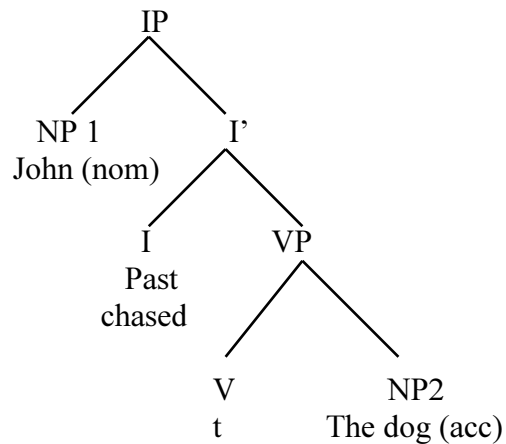
ON FLOATING QUANTIFIERS

As shown in (11), the head V assigns accusative Case to the NP complement.

12a. John chased the dog.

Diagrammatically, (12a) can be represented as (12b):

12b.

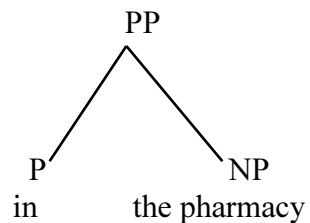


In (12b) the object NP2 is governed by the trace of transitive verb *chase* which assigns it objective Case under government. (cf. Amer. 1996)
Finally, an NP is marked oblique case if governed by a preposition [NP , PP], for example:

13a. I saw him in the pharmacy

The underlined phrase can be diagrammatically represented as follows:

13b.



In English, as in Arabic and other natural languages, Case may also be assigned under adjacency, which means: nothing may intervene between a Case assignor and its assignee.

Switching the attention to the direction of Case, the examples above clearly show that the accusative and oblique Cases are assigned to the right as in VSO languages, while nominative Case is assigned to the left as in SVO languages.

It is noteworthy that Chomsky (1986a) adds N and A to the list of Case assignors, and distinguishes two types of Cases: structural Case, and inherent Case. The former is assigned by virtue of a structural relation at S-structure, while the latter is assigned by virtue of thematic relation at D-structure.

Further, at least in English and Arabic, Case assignment requires government, which involves adjacency. Sells (1987) maintains:

14. α assigns Case to β iff
 - a. α is a Case assignor
 - b. α governs β
 - c. α is adjacent to β

Having described the theoretical framework to be adopted in this study, we move next to describe pre-determiner quantifiers

2. Pre-determiner quantifiers in English and Arabic

This section sheds light on the structure of pre-determiner quantifiers (like *all*, *both* and fraction quantifiers) in English and SA transitive clauses. These quantifiers always precede central determiners.

2.1. Quantifiers *All*, *Both*, and *Half*.

2.1.1 All

Plural nouns with generic or specific reference may follow '*All*'. Consider:

15a. All creatures are mortal.

b. All the boys attended the class.

In expressing specific reference 'all' precedes both countable and non-countable nouns as in (16):

16a. All the money will be refunded.

b. All the girls will go to a picnic this afternoon.

The Arabic equivalence of all is '*kul*' or '*jami*'. These quantifiers are inflected for Case as will be seen later. *Kul/ all* is either followed by definite

ON FLOATING QUANTIFIERS

or indefinite article². However, *jammi*⁹ is only followed by a definite noun. Consider:

- 17a. Kull-u n-naas-i jaa?-uu
All the-people came
'All the people came'
- b. Kull-u Taleb-in yadrus yanjaH
All student studies succeeds
'Any student who studies succeeds'
- c.* Kull-u T-Tullab-i yadrus-uun yanjaH-uun
All the-students study succeed
- d. jamii⁹ n-naas-i jaa?-uu
All the-people came
'All the people came'

2.1.2 Both

This Quantifier has a dual meaning,; therefore, it is always followed by a plural countable noun, and it only appears sentence initially as in (18):

- 18a. Both men arrived
b.* The men arrived both

The equivalent Q in Arabic is *kila* (masculine), *kilta* (feminine). This Q is followed by a dual countable noun, that is assigned genitive Case since it syntactically stands as a construct state. Further, it appears sentence finally if only it hosts a clitic pronoun that is coindexed with the head noun and agrees with it in Case, gender, and number. Consider:

- 19a. kila r-rajulayn-i waSal-aa.
both the-men arrived-they.
'Both men arrived'
- b. waSal-a kila r-rajulayn
Arrived both the-men
'Both men arrived'
- c. ?r-rajulan-i wasal-a kila-hum-aa.
The men arrived both-they.
'Both men arrived'
- d.* ?r-rajulan-i wasal-aa kila.
The men arrived both

The examples in (19) are well-formed except (19d) This ill-formedness is due to the impossibility of stranding *kila* sentence finally without being followed by a clitic pronoun.

2.1.3. Half

Fractional quantifiers include *half* must be followed by a central determiner and a noun.

20a. I refunded half the amount.

b. The train terminated in the central station half an hour ago.

When occurring simultaneously with demonstratives and the articles, fractional quantifiers, including *half* precede such determiners. Consider:

21. Half these houses are for rent.

This corresponds equally to fractional quantifiers in SA. For convenience, consider the examples in (22):

22 a. nesf-u haa?ulaa?-i l-awlaad-i mahara

Half these the boys clever

‘Half of these boys are clever’

b.* haa?ulaa?-i nesf-u l awlaal-i mahara

These half the-boys clever

* ‘These half of the boys are clever’.

In (22a) the Q *half* precedes the demonstrative and the article. Whereas in (22b) the former is preceded by the latter; therefore, the sentence is ill-formed.

After demonstrating the structural description of pre-determiners we move next to clarify the syntactic function of the universal Q *kul/all*.

3. Syntactic function.

I hereby focus on the universal floating Q *kul/all*, which Abney (1987) treats as a specifier while Sportiche (1988) states that it is adjoined to the NP or determiner phrase (DP) in the base. However, Shlonsky (1991) states that *kol/all* in Hebrew is a functional head.

Here I argue that the quantifier is a functional head in SA.

Evidence for this is drawn from its ability to host clitic. Consider the following examples:

23a. qata9-t-u kull-a l ward-i b-HerS

Cut I all the flowers carefully

‘I cut all the flowers carefully’

b- qata9-t-u l ward-a kul-luh-u b-HerS

ON FLOATING QUANTIFIERS

- Cut I the flowers all-it carefully
 ‘I cut all the flowers carefully’
 c-* qata9-t-u l ward-a kul b-HerS
 Cut I the flowers all carefully
 ‘I cut all the flowers carefully’
 d-* qata9-t-u kul-luh-u l ward-a b-HerS
 Cut I all it the flowers carefully
 ‘I cut all the flowers carefully’

(23a & b) are synonymous, although (23b) is more popular. Yet when the Q appears to the right of the DP ‘*l-ward*’ in (23b), it obligatorily hosts a clitic pronoun, which must be coindexed with the quantified DP and agree with it in number, Case and gender. This is further clarified by the ill-formedness of (23c) where the quantified DP is followed by a bare Q, and (23d) where the cliticised Q precedes the quantified DP.

Hosting a clitic introduces evidence that the Q is a functional head in SA. This is due to the fact that only functional heads can host clitic. Shlonsky (1991). This set of facts applies equally to the fractional quantifiers ‘nus, θulθ, etc. Consider:

- 24a. alawlaad-u nesf-a-hum Dahab-a ?ila l-madras-a
 The boys half they went to the- school
 ‘Half of the boys went to school’
 b. ?al-awlaad-u θulθ-hum mahara.
 The boys third-they clever.
 ‘One third of the boys are clever’

Another evidence for the claim that Q is a functional head is that it can stand alone in the nominal phrase. Consider:

- 25a. al-kull-u lam ya?tuu
 The all not come
 ‘All did not come’
 b. an-nesf-u lam ya?tuu
 The half not come
 ‘The half did not come’
 c. aθ-θuluθ-u najaH-uu fi l-mtihaan
 The third succeeded in the- exam
 ‘The third passed the exam’

The fact that the Q *kul* in (25a) along with the fractional Q

in-nesf/half, and *aθ-θuluθ/the third*, in (25b &c) can stand on their own draws more support for the claim which considers such Qs as functional heads.

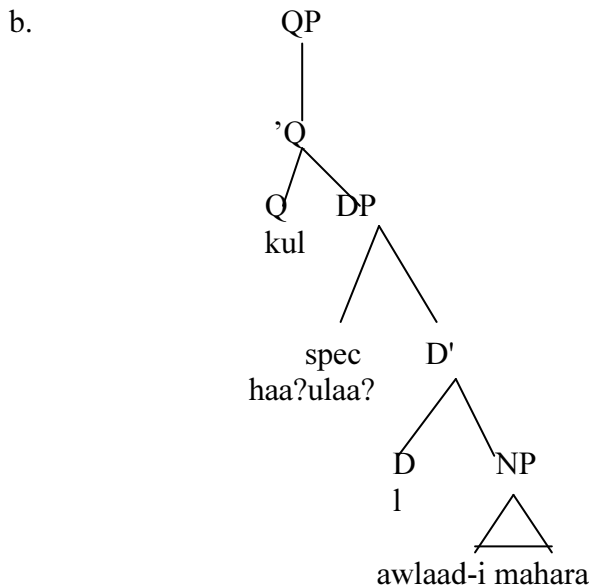
Moreover, the fact that Qs agree with their quantified DPs in gender and number, but not in case, instantiates a further evidence that they are functional heads. This can be illustrated as follows:

- 26a. *kul-u r rijal-i wasal-uu*
 All -nom the men arrived
 ‘All the men arrived’
 b. *wasal-a nisf-u r rijal-i*
 Arrived half the men
 ‘Half of the men arrived’

In conclusion, Arabic quantifiers are heads of the NPs they quantify; they behave in every respect like a nominal head. Therefore, they receive Case, bear definite or indefinite articles, and head genitive constructions.

Consequently, it can generally be stated that the universal Q *kul* together with the fractional Qs like *nesf* and *θuluθ* is functional heads of the NPs they quantify. Therefore a phrase like (27a) can be represented diagrammatically as in (27b).

- 27a. *kull-u haa?ulaa?-i l wlaad-i mahara*
 All these the boys clever.
 ‘All these boys are clever’



ON FLOATING QUANTIFIERS

Taking the finding that quantifiers are heads of the DPs they modify, we turn now to discuss the phenomena of floating quantifiers in ditransitive and dative clauses.

4. Floating quantifiers in ditransitive and dative clauses.

Arabic and English allow quantifier floating and they manifest the following alternation in the positioning of the quantifiers. Let us see first the Arabic quantifier *kul* 'all' in ditransitive and dative clauses.

- 28a. ?a9Taa zayd-un kull-a T-Tullaab-i kutub-an
Gave Zayd-nom all-acc students-gen books-acc
'Zayd gave all students books'
- b. ?a9Taa zayd-un T-Tullaab-a kull-a-hum kutub-an
Gave Zayd-nom the-students-acc all-acc
books-acc
'Zayd gave all the students books'
- c. * ?a9Taa zayd-un T-Tullaab-a kull-a kutub-an
Gave Zayd-nom the students-acc all-acc books-acc
- d. * ?a9Taa zayd-un kull-a-hum T-Tullaab-i kutub-an
Gave Zayd-nom all-acc-[3MPL] students-gen books-acc

As appears in (28a), the quantifier constitutes with the NP *T-Tullaab-i* 'students' a nominal phrase which has the characteristics of Construct State in Arabic (cf Fassi Fehri 1993, and Benmamoun 1993 for Arabic, and Borer 1984, Ritter 1987, and Siloni 1990 for Hebrew). In this structure the quantifier *kul* surfaces as a head which is assigned Case and assigns genitive Case to the NP following it. However (28b) shows that when the quantifier appears to the right of the NP

T-Tullaab 'students', it appears as a modifier and it obligatorily hosts a clitic pronoun which must agree with the quantified NP in number, gender and Case as pointed out earlier. Therefore, a bar quantifier cannot appear to the right of the quantified NP, and (28c) is ruled out. Moreover, *kull* cannot host a clitic when it precedes the quantified NP as deduced from the ungrammaticality of (28d). Reversal in the order of the quantifier and quantified NP, and the concomitant changes are not restricted to the IO of V. (29) demonstrates that DO exhibits the same alternation.

- 29a. ?a9Taa zayd-un T-Tullaab-a kull-a l-kutub-i
Gave Zayd-nom the-students-acc all-acc books-gen
'Zayd gave the students all book'
- b. ?a9Taa zayd-un T-Tullaab-a l-kutub-a kull-a-haa

- Gave Zayd-nom the-students-acc the books-acc all-acc
*‘Zayd gave the students books all’
c.* ?a9Taa zayd-un T-Tullaab-a l-kutub-a kull
Gave Zayd-nom the-students-acc the books-acc all
d.* ?a9Taa zayd-un T-Tullaab-a kull-a-haa l-kutub-i
Gave Zayd-nom students-acc all-acc-[3fS] the books-gen

The facts appearing in (28) and (29) apply directly to datives. The following examples are typical:

- 30)a. ?a9Taa zayd-un kutub-an li-kull-i T-Tullaab-i
Gave Zayd-nom books-acc to-all-gen students-gen
‘Zayd gave books to all students’
b. ?a9Taa zayd-un kutub-an li-T-Tullaab-i kull-i-him
Gave Zayd-nom books-acc to-the-students-gen all-gen
‘Zayd gave books to the students all’
c.* ?a9Taa zayd-un kutub-an li-T-Tullaab-i kull-i
Gave Zayd-nom books-acc to-the-students-gen all-gen
d.*?a9Taa zayd-un kutub-an li-kull-i-him T-Tullaab-I
Gave Zayd-nom books-acc to-all-gen-[3MPL]
students-gen

- 31a. ?a9Taa zayd-un kull-a l-kutub-i li-T-Tullaab
Gave Zayd-nom all-acc books-gen to-the students
‘Zayd gave all books to the students’
b. ?a9Taa zayd-un l-kutub-a kull-a-haa li-T-Tullaab
Gave Zayd-nom the books-acc all-acc [3fS] to the
students
‘Zayd gave the books all to the students’
c.* ?a9Taa zayd-un l-kutub-a kull-a li-T-Tullaab-i
Gave Zayd-nom the books-acc all-acc to-the students-gen

However, the quantifier modifying the IO must appear directly adjacent to it to the right associated with a resumptive pronominal clitic; otherwise, the sentence will be ill-formed. Consider the following examples:

- 32a. ?a9Taa zayd-un T-Tullaab-a kull-a-hum kutub-an
Gave Zayd-nom the students-acc all-acc books-acc
‘Zayd gave the students all books’
b.?? ?a9Taa zayd-un T-Tullaab-a kutub-an kull-a-hum

ON FLOATING QUANTIFIERS

Gave Zayd-nom the students-acc books-acc all-acc

The same finding in (32) applies to the quantifiers modifying the DO in datives. By way of illustration, consider the examples in (33):

33a. ?a9Taa zayd-un l-kutub-a kull-a-haa li-T-Tullaab

Gave Zayd-nom the books-acc all-acc

To the students

‘Zayd gave the books all to the students

b.?? ?a9Taa zayd-un l-kutub-a li-T-Tullaab-i kull-a-haaṣ

Gave Zayd-nom the books-acc to the students-gen all-acc

The example in (33) shows that Arabic is like English in this specific respect. The quantifier modifying the IO in DOCs must appear between the IO and the DO. To show this in English the following examples are a case in point:

34a John gave the students both books

b.* John gave the students books both

c. John sent the boys both to school

d.* John sent the boys to school both

Having described the data of FQs in ditransitive and dative clauses, we move next to account for the syntax of floating quantifiers in English and Arabic analytically.

5. The syntax of floating quantifiers

In consequence with the findings above, I argue that a Q in English can float to the right of the NP it modifies under two conditions: (a) if the NP is a subject and (b) if the NP is an object followed by a predicative complement. Floating of the Q is not however possible, if the object lacks such a complement. This is illustrated in (35):

35a. The girls will all leave.

b. We consider the men all wise.

c.* I saw the men all.

Following Sportiche (1988), Bowers (1993) assumes that the floating quantifiers in (35) are stranded when an NP moves to the left. Thus stranded Q is always possible in subject which moves from its base generated position to spec IP, and it is also possible in the base object position so long as the object is followed by a complement; otherwise, the stranded quantifier is impossible as appears in (35c). The illegitimacy of (35c) also shows that FQs are base generated as XP adjuncts but only to the propositional categories predicate phrase (PrP) and IP. An implication of the

above analysis is that we should expect to find floating quantifiers in control constructions, irrespective of whether they involve full clauses or SCs. The examples in (36) cited in Bowers (op cit. 624) show this to be correct:

- 36)a. I persuaded the men_j [all PRO_j to resign]
- b. We put the students_j [each PRO_j in separate desks]
- c. I painted the wall_j [all PRO_j red]
- d. They feed the meat_j to the lions PRO_j raw

The key observation here is that PRO must be controlled by the direct object and cannot be controlled by the dative argument.

Applying Bowers proposal of FQs on Arabic will come up with various problems. This is due to the fact that PRO is unavailable in Arabic. (cf Souali 1992: PP323-332). This makes the functional category PrP as a redundant element in ditransitive clauses.

Secondly, Arabic does not allow FQ to appear sentence finally as shown in (29c), (30c), (32b) and (33b) above, and this gives prima-facie evidence that quantifier stranding (QS) is not available with the quantified objects in ditransitive and dative

clauses of Arabic³. This leads to a conclusion that the Q and the quantified NP are neither separated by a PRO or an NP-trace as in English, but that the two appear in their base generated positions.

An additional evidence for this claim is that in Arabic the modified DP and its modifier cannot be separated by an auxiliary verb as in English.

Finally, Bowers claims that FQs are adjoined only to IP and PrP and this leaves no position for accommodating the Q modifying the DO, which appears base generated in spec VP in Bowers' proposal.

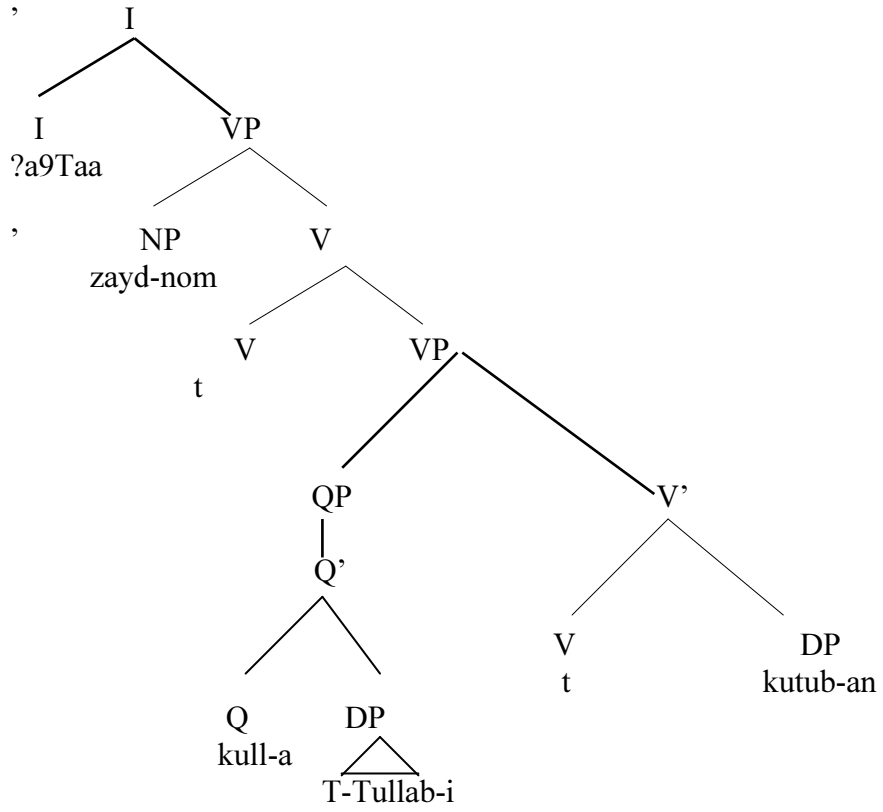
As a result, it appears that Bowers' proposal of FQs will be problematic if applied to Arabic, therefore having an alternative account for interpreting the phenomena of FQs in Arabic is due now.

5.1 An alternative account

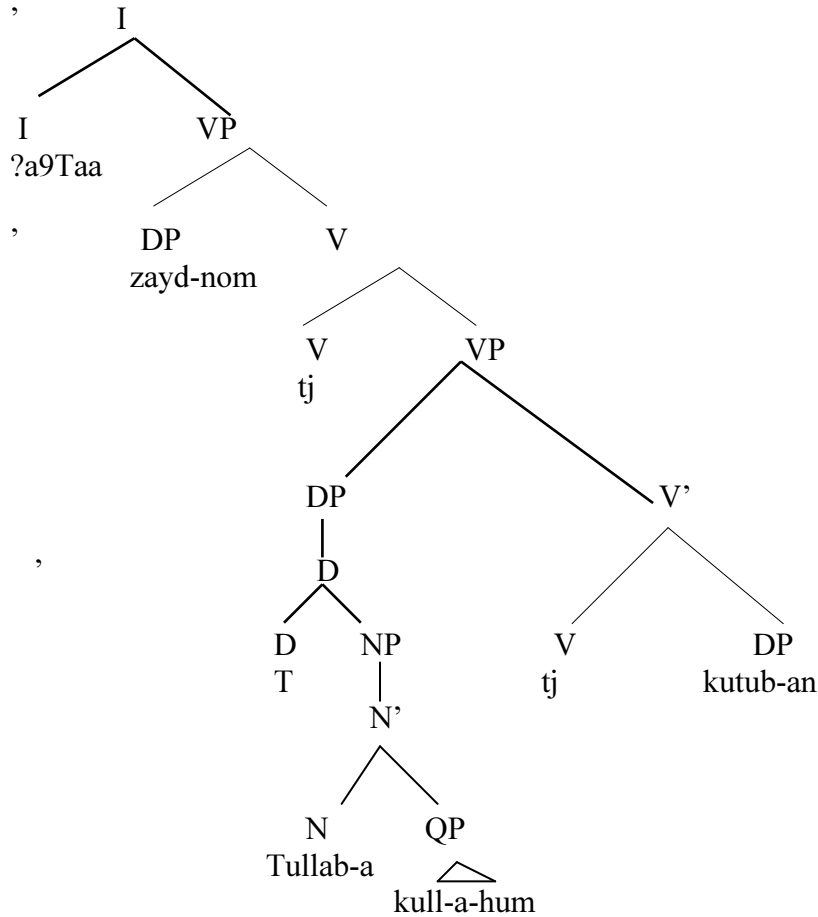
Taking the features of FQs highlighted above into consideration, we suggest that the quantifier in Arabic is base generated as a head of the QP or as a modifier of a DP. If the Q surfaces as a head, it either locates to the left of the DP modifying it, or stands alone. However, if the Q adjoins to the right of the DP complement, it functions as a modifier. Consequently, (28a) and (28b) can be represented as in (37a) and (37b) respectively:

ON FLOATING QUANTIFIERS

37a.



37b.



In both of these structures, we now have configurations for quantifier positions, and, importantly, the c-command asymmetries required by the Barss and Lasnik observations are preserved. Indeed (37a) shows that the Q *kull* c-commands and precedes the DO, and governs its modifying NP to the right.

Technically this can appear as in (38):

(38)a. Q c-commands DO iff the first branching node dominating Q also dominates DO and Q does not dominate DO

b. Q governs its modifier iff Q c-commands it and no barrier intervenes.

(38b) shows that the quantified DP (IO) surfaces as a head of the DP complement taking the Q as a modifier, and this also is perfectly consistent

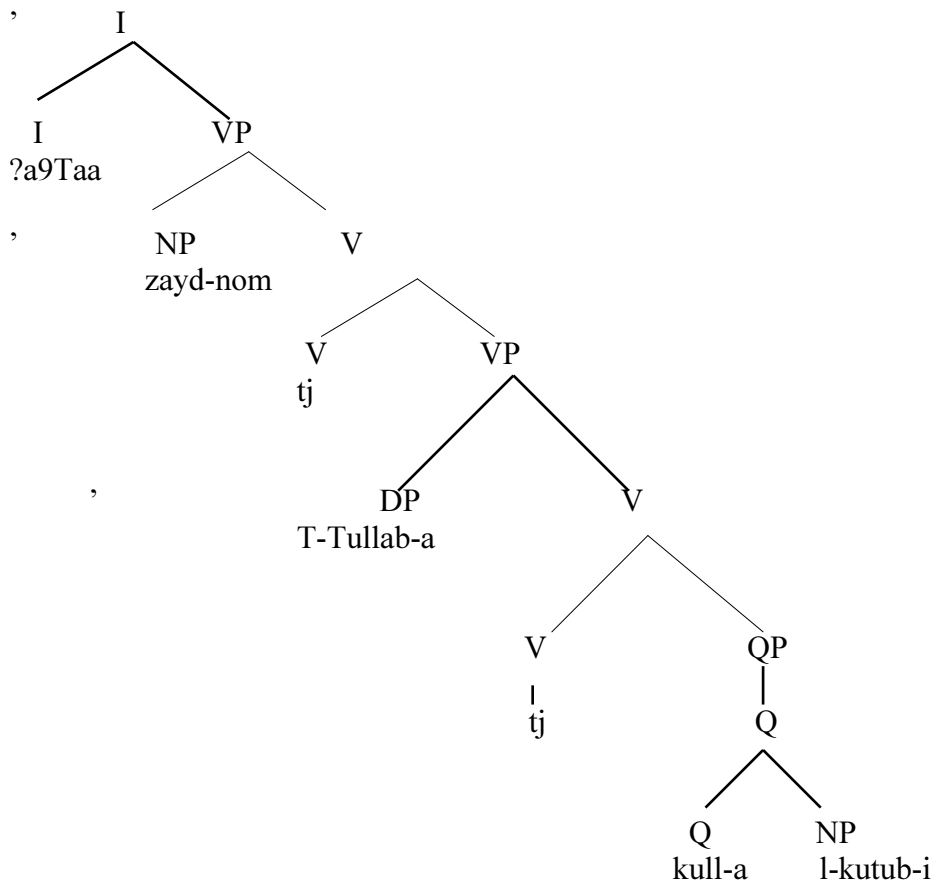
ON FLOATING QUANTIFIERS

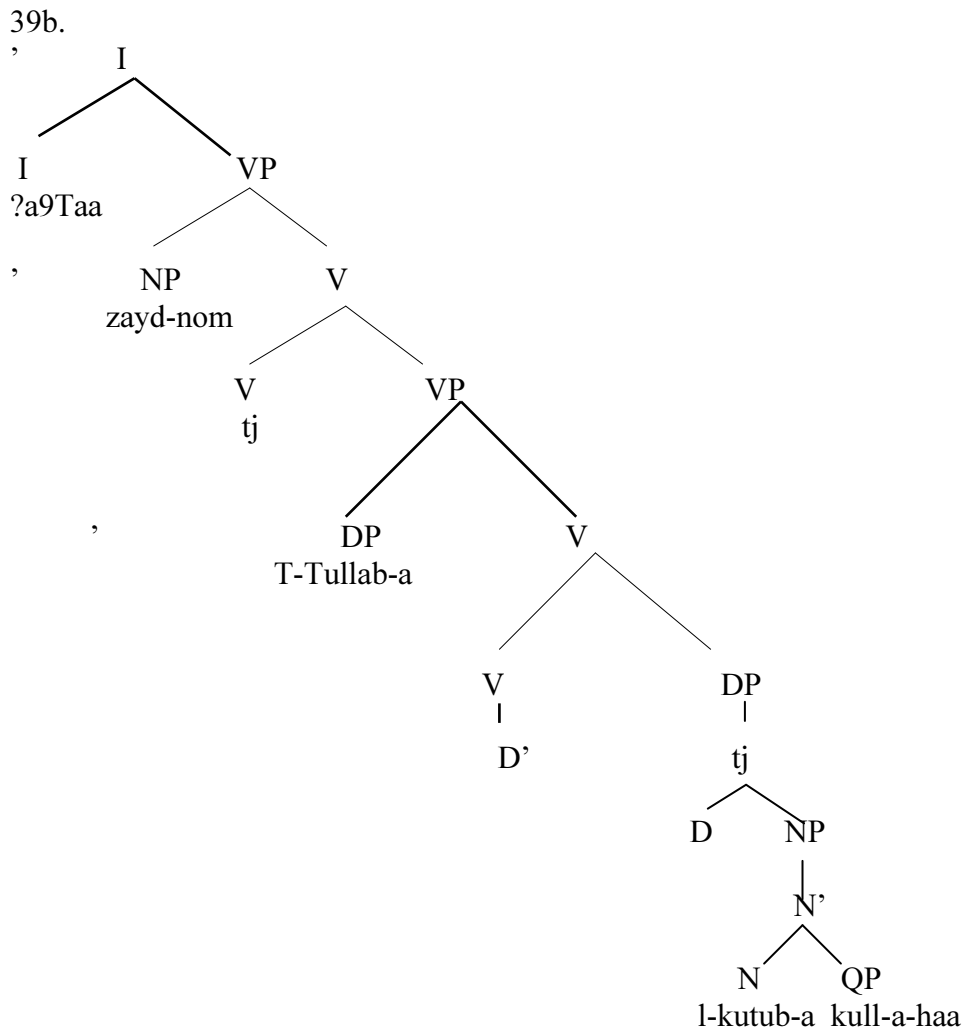
with Barss and Lasnik observations. The head DP (IO) c-commands and precedes the DO, and governs its modifying quantifier to the right.

A consequent general descriptive observation of this is that the structure of quantifiers in Arabic is flexible in the sense that when the Q surfaces to the left, it functions as a head. Whereas, if it appears to the right it functions as a modifier.

With this generalization in mind, we turn now to account for the position of the Q appearing to the left or to the right of the DO. We suggest that if this quantifier appears to the left of the DP as in (29a), then, it functions as a head (DO) and the DP directly following it functions as a modifier. However, if the Q appears to the right of the quantified DO as in (29b) it functions as a modifier as represented in (39a) and (39b) below:

39a.





As stated above, (39a) shows that the Q surfaces as a head of the QP and functions as DO, while the DP following it stands as a modifier. But this is not the case with (39b) since the Q surfaces as a modifier and adjoins the quantified DO to the right.

This corresponds typically to the DO in dative clauses cited in (31a and b) above.

A consequent finding deduced here is that the Q can appear as a head to the QP and as a DP modifier in both ditransitive and datives clauses.

Turning to Case assignment, unlike English, Qs in SA are assigned Case. When manifesting as a head, the Q is assigned Case in terms of its position in the sentence (subject or object positions)⁴, since it locates at A position⁵.

ON FLOATING QUANTIFIERS

However, if it surfaces as a modifier, it is assigned Case presumably by percolation. Baker, (1988). Following Hassan, (1963) among others, the modifier here stands as an abstract emphazier to its preceding head, and agrees with it in gender, number and Case.

6. Summary remarks

It has been shown that QF is available in Arabic ditransitive and dative clauses, and that Arabic is less liberal than English in terms of Q order since the former does not allow QS except only in SV-Comp word order. Whereas the latter allows QS if the NP is a subject or is an object followed by a predicative complement. Further, it appears that the features of Arabic Qs are different from their counterparts in English. Qs appear as both heads and modifiers in the former. In case of appearing as heads or modifiers, they require Case, but this cannot hold in English. This is due to the finding that Qs in Arabic are functional heads and can locate at A position, whereas in English they are considered as X-bar adjuncts and accordingly locate at A-bar position. Thus applying Bowers' proposal to Arabic results in various problems. This consequently leads to accommodating Arabic Qs in a developed proposal, suggesting that the Q can appear as a head to the QP and as a DP modifier in both ditransitive and dative clauses.

Appendix

Symbols used in transcribing Arabic

As far as the pronunciation of Arabic is concerned, this is to a large extent predictable from standard Roman orthography. However, Arabic does have a set of consonants which are unfamiliar to the speakers of Western languages, and for the purpose of this topic these consonants, along with the vowels are transliterated according to the table below:

	Arabic shape	Phonetic Transcription	description
consonants	ت	Voiceless interdental fricative	
	ح	θ Voiceless pharyngeal fricative	H
	خ	Voiceless velar fricative	x
	ث	Voiced interdental fricative	ð
	ج	Voiceless palatal fricative	ç
	س	Voiceless alveolar emphatic fricative	s
	ص	Voiced alveolar emphatic stop	D
	ض	Voiceless alveolar emphatic stop	T
	ز	Voiced interdental emphatic fricative	Z
	ر	Voiced pharyngeal fricative	ʁ
ي	Voiced velar fricative	Y	
Short		+front +low	a
vowels		+high +back	u
		+high +front	i
Long	ا	+front +low	aa
vowels	و	+high +back	uu
	ي	+high +front	ii
diphthongs	او		aw
	اي		ay

ON FLOATING QUANTIFIERS

REFERENCES

- Abney, S (1987) The English Noun Phrase in its Sentential Aspect
Unpublished Ph.D. dissertation MIT, Cambridge MA.
- Amer, W. (1996) On Double Object Construction in English and Arabic.
Unpublished Ph.D. dissertation. Essex university, UK.
- s Syntax, Blackwell' Atkinson, M (1992), Chidren
- Baker, M,(1988b) Theta theory and the syntax of applicatives in
Chichewa. *Natural Language and Linguistic Theory* 6. 353-389
- Barss . J. and H. Lsnik (1986) A Note on anaphora and double objects.
Linguistic Inquiry 17, 347 - 354
- Bemmamoun, E. (1993) Functional and Inflectional Morphology:
Problems of Projection, Representation and Derivation. Unpublished
Ph.D. Dissertation, University of Southern California.
- Borer H. (1983), 'Parametric Syntax: Case Studies in Semitic and Romance
Languages', Foris Publications, Dordrecht.
- Bowers, J. (1993) The syntax of predication. *Linguistic Inquiry* V.24, No
4. 591-656.
- Chomsky, N. (1981) Lectures on Government and Binding, Foris
Dordrecht
- _____ (1986-a) Knowledge of Language, Its Nature, Origin and Use.
New York; Praeger.
- _____ (1986-b) Barriers, MIT Press.
- _____ (1989) Some notes on economy of derivation and representation.
MIT Working Papers in Linguistics 10, 43-74. Combridge MA:
MIT.
- _____ (1991) A Minimalist Program for Linguistic Theory. In K. Hale

and S. Keyser (eds), *The view from Building 20 essays in Honor of Sylvian Bromberger*, Cambridge Mass: MIT Press, 1-52

Fassi Fehri (1993) *Issues in the Arabic Structure and Words*. Dordrecht: Kluwer Academic Publishers.

Hassan, A. (1993) *Anahu Alwafi. Darl-Ma'arif*.

Hoekstra E. (1991) On double objects in English and Dutch 83-95. In Katherine Ieffel and Denis Bouchard (eds), *Views on Phrase Structure*, Kluwer Academic Publishers.

Napoli J. (1992) The double Object Construction, domain asymmetries, and linear precedence. *Linguistics* 30, 837-871.

Ritter, B. A Head Movement Approach to Construct State Noun Phrases. MS, MIT, Cambridge, Mass.

Sells, P. (1987) *Lectures on Contemporary Syntactic Theories*, Stanford, Cal CSLL.

Shlonsky, U. (1991) Quantifiers as functional heads. A study of Quantifier float in Hebrew in *Lingua* 86, 159-180, NorthHolland..

Siloni, T. (1994) *Noun Phrases and Nominalization*. Ph.D. Dissertation, University of Geneva.

Souali, E. (1992) *Pronominal Elements in Arabic*, PhD Thesis, Sidi Mohammed bin Abdallah University.

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

Weibelhuth, J. (1995) *Government and Binding Theory and the Minimalist Program*. Blackwell.

ON FLOATING QUANTIFIERS

Notes

¹Following Chomsky (1981, 1986a, 1986b, 1989), universal grammar (UG) is the theory of natural languages and the expressions they generate. It is generally identified with a representation of the language faculty with which humans are endowed. This faculty, which is precisely called mental faculty, is innate.

UG theory, in its conventional form, includes four levels of representation for any natural language. These levels are: Lexicon, which is projected to deep structure and this is then mapped into surface structure via movement, mapping two forms phonetic form and logical form.

The theory of UG is referred to as Government Binding Theory (GB). This theory is divided into a number of sub-theories, such as: X-bar theory Theta theory, Case theory, Government theory, Binding theory, Movement theory, Bounding theory and Control theory

²The indefinite article is morphologically covert in Arabic while overt in English. However it has the same semantic and syntactic functions in both languages.

³Quantifier stranding is available in SV-comp word order in Arabic. This is due to the movement of the subject from Spec VP to Spec IP, and the rich agreement that is available between the subject, verb and the resumptive pronominal clitic cliticised to the Q. After moving the S it remains in its base generated position (Spec VP) at D-structure. Consider:

- ?n-naas-u jaa?-uu kulu-hum

⁴If the Q locates as a subject, the n it is assigned nominative Case under spec-head agreement. However, if it is indirect object, it is assigned accusative Case structurally under government. If it surfaces as a direct object, then it is assigned Case at deep structure. For details cf. Amer (1996).

⁵An A- position is a potential theta-position, which is specified for the subject positions of the NPs, sentences and all complement positions. Wenalhuth (1995).