

# English Floating Quantifier Constructions: A Non-movement Approach

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**Jong-Bok Kim and Jung-Soo Kim. 2009. English Floating Quantifier Constructions: A Non-movement Approach.** *Language and Information 13.1*, 57–75. English floating quantifiers (FQ) are both limited and complex in the sense that they are introduced by a limited set of words, *all*, *both*, and *each*, and display free distributional possibilities. This paper provides a non-movement approach to the syntax of English floating quantifier constructions. The non-movement analysis we develop here is different from stranding movement analyses in that all the FQs are base-generated while the linkage with their antecedent refers to grammatical features such as SUBJ and PRD. The analysis avoids the postulation of abstract levels as well as empty elements in capturing the flexibility of English FQ constructions, making the grammar of English simpler. (Kyung Hee University)

**Key words:** floating quantifier, HPSG, feature structure, lexical entry

## 1. Introduction

English floating quantifier (FQ) constructions are both limited and complex in the sense that they are introduced by a limited set of words, *all*, *both*, and *each*. One salient property of the constructions is that they display free distributional possibilities as illustrated in (1):

- (1) a. **All** the students have stayed in the same hotel and taken their meals together.
- b. The students **all** have stayed in the same hotel and taken their meals together.
- c. The students have **all** stayed in the same hotel and taken their meals together.

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Even though the position of the FQ, *all* here is different in each case, the three sentences have the same truth conditional values.

Although the FQ and the NP it is associated with are not adjacent to each other, they are closely related. Observe the examples in (2):

- (2) a. The students/\*The student **all** have stayed in the same hotel and taken their meals together.  
 b. The students/\*The student have **all** stayed in the same hotel and taken their meals together.

As given here, we can notice the NP associated with the FQ needs to be plural. The associated NP further needs to be definite (Dowty and Brodie 1984):

- (3) a. John, Mary, and Susan **all** left.  
 b. John and Mary **both** left.  
 (4) a.\*John, Mary, or Susan **all** left.  
 b.\*Few students **all** left.  
 c.\*No students **all** left.

In addition, there exist anaphor-like conditions between the NP and the FQ. For example, (5) shows us that the FQ cannot be bound by a nonlocal binder (Bobaljik 2003, Hoeksema 1996, McCloskey 2000):

- (5)\*[The mother of my friends<sub>*i*</sub>] has **all<sub>*i*</sub>** left.

Such a locality condition can be found in many different environments.

- (6) a.\*These are the professors<sub>*i*</sub> who Taylor will have **all<sub>*i*</sub>** met before the end of term. (relativization)  
 b.\*The professors<sub>*i*</sub>, Taylor will have **all<sub>*i*</sub>** met before the end of term. (topicalization)  
 c.\*Which professors<sub>*i*</sub> will Taylor have **all<sub>*i*</sub>** met before the end of term? (wh-question)

As given in (6), the FQ and the associated NP cannot be in a different local domain: they must be in the same local domain.

Even though the FQ, canonically being associated with the surface subject, has rather a free distribution, there exist several distributional constraints. For example, the FQ is not possible in the sentence final position (Bobaljik 2003, Bošković 2004, Fitzpatrick 2006):

- (7) a.\*The students have arrived **all**.  
 b.\*The students have danced **all**.

c.\*The students were seen **all**.

Notice, however, that the non-subject-oriented FQ is possible under certain circumstances in particular when the object is a pronoun (Mailing 1976, Baltin 1995, Bošković 2004, Tsoulas 2003):

- (8) a.\*Mary hates the students **all**.  
 b.\*Betty gave books to the peasants **all**.
- (9) a. They threaten us **all**.  
 b. Mary hates them **all**.

The contrast here illustrates that there is an asymmetry with respect to the grammaticality between the lexical NP and the pronominal NP.

There also exist cases where a sentence final element can rescue the FQ associated either with the surface subject or object (Janke and Neeleman 2005). Our corpus search also provides many examples as given in (10):

- (10) NP + V + all + PP:
- a. We arrived **all** in one piece, Ashley said, as she drew the car to a halt outside the stone villa. (BNC: JY9 2952)
- b. Since the dolphin is caught in shark nets, other unreported deaths probably occur **all** along the coast. (BNC: ABC 1443)
- c. Soldiers stood **all** around the Knave of Hearts, and near the King was the White Rabbit, with a trumpet in one hand. (BNC: FNS 507)

The FQ, linked to the subject, can occur right after the intransitive verb, if followed by a PP. The FQ associated even with the object can be possible if it is followed by a PP:

- (11) V + NP + all + PP:
- a. You could see the mattresses **all** under the sheet. (BNC: KCN 3972)
- b. I bought some Christmas cards **all** on my own. (BNC: A74 1091)
- c. Lo and behold, in the same issue at T.W.R's moaning, I found 3 letters **all** in praise of Steffi. (BNC: A0V 488)

Moreover, in ditransitives or complex transitives, the FQ can be linked to the surface object (Sportiche 1988, Bowers 1993, Baltin 1995, Mailing 1976):

- (12) a. Mary gave the kids **all** some candy.  
 b. She called the men **both** bastards.

- c. Their vision struck the shepherds **all** blind.
- d. The guard saw the prisoners **all** leave.

The FQ can be linked to a surface object when it precedes an infinitival VP as observed from our corpus examples:

- (13) a. We wanted these players **all** to know that each one of them had a chance to be in the French Davis Cup team. (BNC: CKL 22)
- b. Late at night Modigliani persuaded them **all** to go back to his place to continue the discussion. (BNC: ANF 1148)

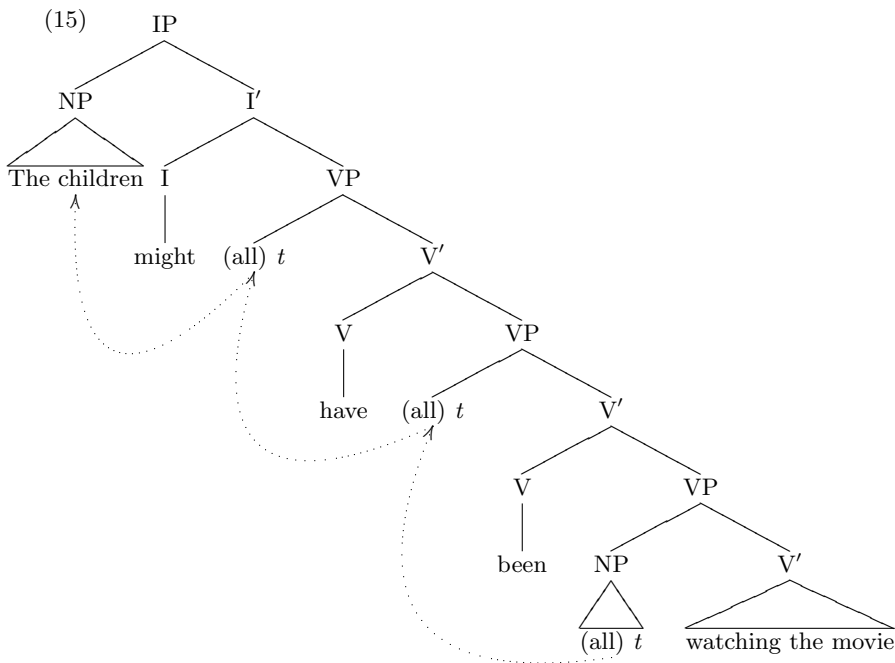
The FQ can further occur in nonfinite clauses (Baltin 1995, Basilico 2003, Bošković 2004, Bowers 1993).

- (14) a. ...they seem to **all** be a character in their own right. (ICE-GB:S1B-019 #094:1:C)
- b. My brother and I shared a room for a while but we soon had a partition put in allowing us to **each** have our separate rooms. (BNC: HDB 44)

As we have seen so far, the FQ can have a great deal of freedom as well as constraints in terms of its distributional possibilities. In this paper, we try to provide a non-movement approach to such basic distributional properties of these English floating quantifier constructions. We first critically review two general approaches to these constructions: stranding and modifier analysis. In doing so, we perform a corpus research using the ICE-GB (International Corpus of English, Great Britain) and the BNC (British National Corpus) and check further distributional possibilities of English floating quantifiers. We then provide a base-generated, non-movement approach that can account for the data set in question.

## 2. Stranding Analysis

The most acknowledged analysis of English FQ constructions is the so-called ‘stranding analysis’. The stranding analysis, initiated by Sportiche (1988) and illustrated in (15), basically assumes the three tenets: (a) the FQ and the NP it is associated with form a single NP constituent in the underlying structure (antecedent-anaphor relations), (b) there is a leftward movement of the NP the FQ quantifies over to the Spec of IP, and (c) the FQ can be stranded in a position adjacent to an empty category during the process of the successive-cyclic leftward movement.



In the structure (15) here, the FQ *all* and the NP *the children* start as a constituent attached to the lowest V' *watching the movie*. Either the NP *the children* alone or the whole constituent can move up to the next higher VP Spec position. In this kind of successive cyclic movement, the FQ can be stranded. Such processes will generate all the following examples:

- (16) a. The children might have been **all** watching the movie.  
 b. The children might have **all** been watching the movie.  
 c. The children might **all** have been watching the movie.  
 d. The children **all** might have been watching the movie.  
 e. **All** the children might have been watching the movie.

Attractive though this analysis may be, it suffers from several problems. For instance, as also recognized by Sportiche (1988) himself and others, this movement analysis would allow ungrammatical examples like (17) (Bobaljik 2003, Bošković 2004, Fitzpatrick 2006):

- (17) a.\*The students<sub>i</sub> have arrived **all** t<sub>i</sub>.  
 b.\*The windows<sub>i</sub> have broken **all** t<sub>i</sub>.  
 c.\*The students<sub>i</sub> were seen **all** t<sub>i</sub>.

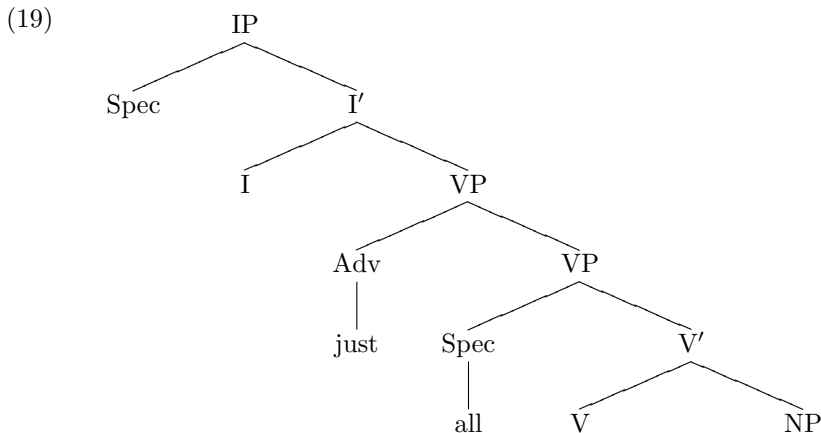
The positions where the FQ *all* appears here are adjacent to the canonical NP trace such as the complement of unaccusative, ergative, and passive verb, respectively. Given the assumption that the NPs *the students* and *the windows* move to the Spec of IP, nothing blocks such examples. Sportiche (1988) gets around this problem with the stipulation that in these cases there are no postverbal traces and the [FQ NP] constituent originates from the Spec of internal VP position from the beginning.

If this is the case, issues then arise with the unaccusative examples saved with the addition of a final PP (Baltin 1995, Puskas 2002):

- (18) a. The magicians disappeared **all** [at the same time].
- b. The voters arrived **all** [exactly at six].

It is highly unlikely to assume that in such cases, the FQ and the NP constituent is generated differently from the one in (17).

In addition, as noted by Haegeman (2006), given the general assumption that adverbs like *just*, *still*, and *warmly* are left-adjoined to VP, the stranding analysis would only allow the configuration in (19):



This structure would then allow examples like the following:

- (20) a. When the lights went on five minutes later, we were **still all** lying on the floor. (BNC: B0U 2794)
- b. If it's the regular Tuesday morning meeting in your home, you'll probably **just all** go into the office for half an hour. (BNC: B32 1749)
- c. The United States, Australia and Canada are **now all** recovering. (BNC: CR8 1516)
- d. Perhaps we shall **soon all** reach the degree of brutishness and indifference of the soldiers of the First Empire. (BNC: K91 1077)

However, corpus examples tell us that there is no strict ordering restriction between the VP-adjoined adverbs and the FQ: the FQ can also precede the VP-adjoined adverbs (cf. Haegeman 2006, Schwartz 1998, Costa 1996):

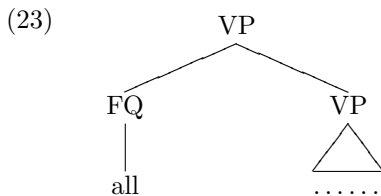
- (21) a. Barring coups, the four Southern Cone presidents will **all still** be in office in 1994, and have set themselves a target that is also a spur. (BNC: ABK 1344)
- b. I once went out to dinner and discovered that the seven other people present had **all just** finished reading *A Dance to the Music of Time*. (BNC: G1A 344)
- c. Nor that by marrying John Carrow her daughter had behaved in a wicked, even if understandable, way for which they were **all now** paying the price. (BNC: CDE 1329)
- d. However, China, France, Japan, India and the European Space Agency will **all soon** be able to offer satellite surveillance services as an adjunct to their other activities in space. (BNC: B77 326)

Another serious problem for the standing analysis with movement derivations, is that there is a mismatch between the presumed source sentence and the output, in particular with the FQ *each*.

- (22) a. The girls have **each** bought an ice cream.
- b. \***Each** the girls have bought an ice cream.
- c. **Each** of the girls have bought an ice cream.

### 3. Modifier Analysis

Another main type of approach to FQs is to assume that the FQ basically functions as a VP modifier (Bobaljik 1995, Dowty and Brodie 1984, Hoeksema 1996, Sag and Fodor 1994):



This simple structure will easily predict the adverbial-like positional possibilities of FQs:

- (24) a. The linguists may have [<sub>VP</sub> **all** left].
- b. The linguists may [<sub>VP</sub> **all** have left].

- c. The linguists [<sub>VP</sub> **all** may have left].

The strong support for such a VP modifier class of FQs comes from the fact that in terms of the distributional possibilities, FQs behave much like adverbs:

- (25) a. The workers (**certainly/all**) would (**certainly/all**) have (**certainly/all**) been (**certainly/all**) drinking some coffee.  
 b. They (**always/usually/all**) have (**always/usually/all**) missed the teacher.

VPE (VP Ellipsis) data also show us the similarities between FQs and adverbs. As observed by Sag (1978) and Sag and Fodor (1994), FQs as well as adverbs cannot appear right before the assumed VP elided position:

- (26) a. Jay has studied karate, and his brothers (**all/both/each/probably**) have \_\_ , too.  
 b. Jay has studied karate, and his brothers have **\*all/\*both/\*each/\*probably** \_\_ , too.

However, once again, this kind of VP modifier analysis is not complete enough when considering all the possible positions of the FQ we have noted earlier. For example, the analysis needs an additional mechanism to account for the contrast in (27) and (28):

- (27) a. \*The students arrived **all**.  
 b. \*The students ran **all**.  
 (28) a. The magicians disappeared **all** [at the same time].  
 b. The voters arrived **all** [exactly at six].

The modifier analysis also encounters issues for the examples in which the FQ is linked to the object:

- (29) a. They threaten us **all**.  
 b. Their vision struck the shepherds **all** blind.  
 c. I looked the numbers **all** up.

In such examples, the FQ *all* cannot modify a VP.

## 4. A Constraint-based Approach

### 4.1 HPSG: A Brief Bit of Background

In this paper, we try to extend the modifier approach within the framework of HPSG, a constraint-based approach. HPSG uses typed feature structures to model linguistic objects. Feature structures of various types specify values for appropriate features. Some of these values are themselves complex feature structures, as, for example, in a word or phrase:<sup>1</sup>

$$(30) \quad \left[ \begin{array}{l} \langle \text{petted} \rangle \\ \text{HEAD} \quad \left[ \begin{array}{l} \textit{verb} \\ \text{VFORM} \quad \textit{fin} \end{array} \right] \\ \text{ARG-ST} \quad \langle \text{NP}, \text{NP} \rangle \end{array} \right]$$

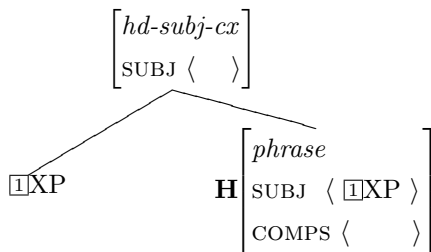
The elements in the ARG-ST will be realized as SUBJ and COMPS in syntax in accordance with the Argument Realization Constraint:<sup>2</sup>

$$(31) \quad \left[ \begin{array}{l} \langle \text{petted} \rangle \\ \text{HEAD} \quad \left[ \begin{array}{l} \textit{verb} \\ \text{VFORM} \quad \textit{fin} \end{array} \right] \\ \text{SUBJ} \quad \langle \boxed{1}\text{NP} \rangle \\ \text{COMPS} \quad \langle \boxed{2}\text{NP} \rangle \\ \text{ARG-ST} \quad \langle \boxed{1}\text{NP}, \boxed{2}\text{NP} \rangle \end{array} \right]$$

This realization constraint means that the ARG-ST is relevant in the lexical level whereas the valence features SUBJ and COMPS are syntax-sensitive.

In the version of HPSG theory we assume here, complex phrases are licensed by grammatical constructions, which are schemata imposing constraints on how component signs can combine to build larger signs. Three constructions of English will suffice for our purposes here, the head-subject construction, the head-complement construction, and the head-modifier construction, given all in the form of Pollard and Sag's (1994) schemata and the construction types of Sag (2007), Sag et al. (2003), Kim and Sells (2008), and related work:

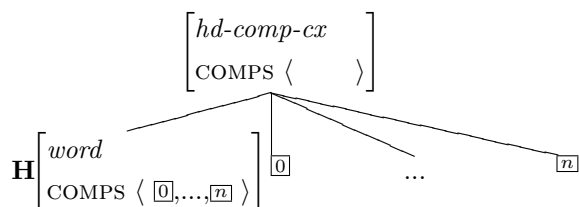
(32) a. Head-Subject Construction:



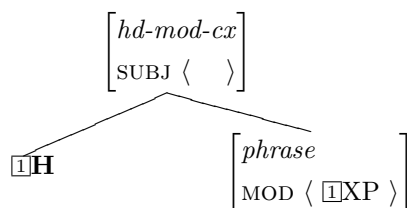
<sup>1</sup> The feature structures used here are abbreviated. See Sag (2007), Sag et al. (2003).

<sup>2</sup> The constraint specifies that the first element in the ARG-ST is realized as SUBJ and the remaining values as the COMPS. See Sag et al. (2003) and Kim and Sells (2008).

## b. Head-Complement Construction:



## c. Head-Modifier Construction:



The Head-Subject Construction in (32a) allows the combination of a VP with its subject whereas the Head-Complement Construction in (32b) licenses the combination of a lexical head and its phrasal complements. The Head-Modifier construction in (32c) combines a modifier with a head that it modifies. These constructions interact with the Head Feature Principle and the various (partly parochial) linear precedence constraints to license complex phrasal signs.

## (33) The Head Feature Principle:

In a headed construction, the HEAD value of the mother must be identical to the HEAD value of the head daughter.

## (34) Four English Linear Precedence Constraints:

- LP1:  $\mathbf{Hd-Dtr}[word] \prec X$   
 LP2:  $[1] \prec [SUBJ \langle [1] \rangle]$   
 LP3:  $NP \prec PP$   
 LP4:  $[POST\text{-}MOD -] \prec \mathbf{Hd-Dtr}$

LP constraints rule out certain possible linear orderings of sister constituents. LP1 thus says that a lexical head must precede all of its sisters, whereas LP2 ensures that a predicate selecting its subject follows that subject. LP3 requires that an NP precede any sister that is a PP.

LP4 ensures that a modifier with the negative POST-MOD value precedes the head it modifies. Notice that there are at least three different types of adverbs in terms of this POST-MOD feature.

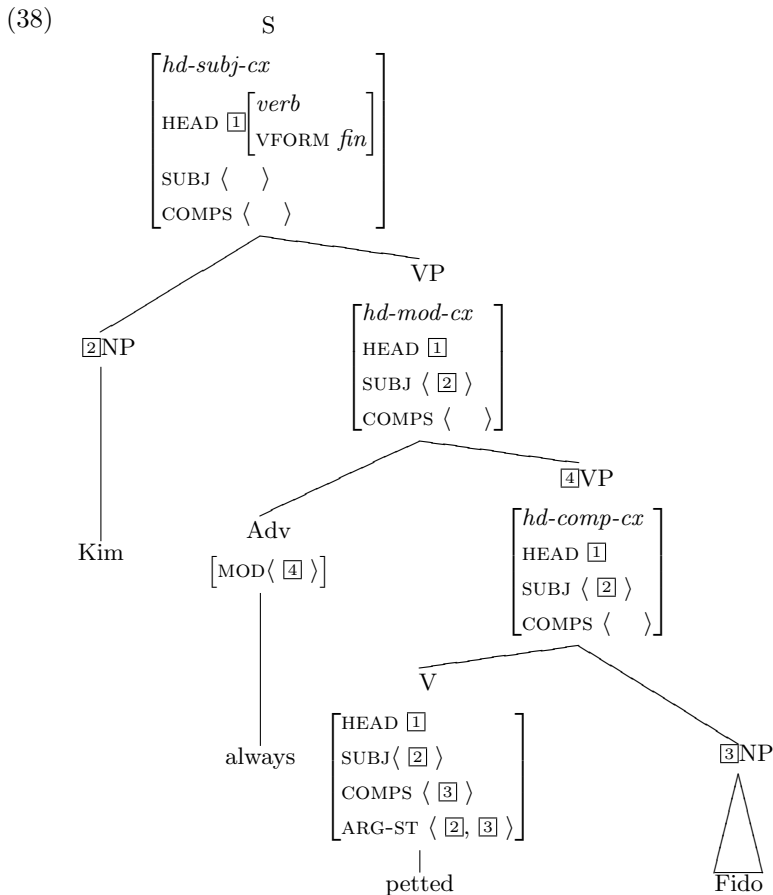
(35) a. The children [**always** [go to bed at 9:30]].

b. The children [[go to bed at 9:30] **always**].

- (36) a. This sort of argument [**simply** [cannot be justified]].  
 b.\*This sort of argument [[cannot be justified] **simply**].
- (37) a. They were convinced on [[forensic evidence] **alone**].  
 b.\*They were convinced on [**alone** [forensic evidence]].

Like the adverb *always* in (35), adverbs in general can modify its head either in the post-modifier or pre-modifier position. Adverbs like *simply* can occur only in the pre-modifier position, whereas adverbs like *alone* appear only in the post-modifier position (cf. Kim 2000). LP4 intends to capture these three different distributional possibilities of adverbs.

The well-formed signs defined by our grammar are those that instantiate the mother of some construction, obeying all constraints specified by that construction, all general principles, and all linear precedence constraints. We can represent the construction of complex expressions via trees of a familiar sort, which are simply a convenient representation of how a given complex sign (a phrase) is licensed by our grammar. (38) is one such diagram:



The verb *petted* selects two arguments as given in the ARG-ST value. The first one is realized as SUBJ and the second one as COMPS value. The Head Feature Principle guarantees that the HEAD feature of the verb is eventually identified with that of the sentence. The LP constraints also ensure the lexical head precedes its complement whereas the VP follows the subject.

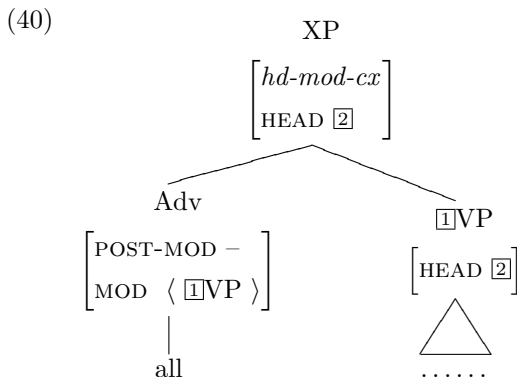
#### 4.2 FQ as a VP modifier

With these basic theoretical assumptions, we are ready to account for distributional possibilities of English FQs. Let's start with the lexical specification of an FQ.<sup>3</sup>

(39) Lexical entry for the FQ *all* (to be revised)

$$\left[ \begin{array}{l} \langle \text{all} \rangle \\ \text{HEAD} \left[ \begin{array}{l} \text{POS } \textit{adv} \\ \text{POST-MOD } - \end{array} \right] \\ \text{VAL} \mid \text{MOD} \langle \textit{VP} \rangle \end{array} \right]$$

This lexical entry means that the adverb *all* modifies any VP, finite or nonfinite. This would then generate a structure like the following:



This structure indicates that the FQ *all* modifies a VP, finite or nonfinite, forming a head-modifier construction. This simple structure, as does the VP modifier approach, will predict the adverbial properties of FQs:

- (41) a. The children might have been **all** [<sub>VP</sub> watching the movie].  
 b. The children might have **all** [<sub>VP</sub> been watching the movie].  
 c. The children might **all** [<sub>VP</sub> have been watching the movie].  
 d. The children **all** [<sub>VP</sub> might have been watching the movie].

It easily predict why the FQ can modify even a nonfinite VP as noted before:

<sup>3</sup> This paper focuses only on the syntax of English FQ constructions. For the discussion of semantics within a VP modifier approach, see Yoo 2001.

- (42) a. They seem to **all** [<sub>VP</sub> be a character in their own right]  
 b. We soon had a partition put in allowing us to **each** [<sub>VP</sub> have our separate rooms].  
 c. ... encourage us **all** [<sub>VP</sub> to stand on our own feet].

The value of the feature POST-MOD also plays an important role. In accordance with LP4, the FQ, carrying the negative feature value for the POST-MOD blocks the FQ from modifying the head in the post-modifier position:

- (43) a. \*The students have arrived **all**.  
 b. \*The students were seen **all**.  
 c. \*Mary hates the students **all**.

Notice that this can also easily explain the VPE fact we observed earlier, whose data we repeat here:

- (44) a. Jay has studied karate, and his brothers [**all** [<sub>VP</sub> have \_\_ ]], too.  
 b. \*Jay has studied karate, and his brothers [have [**all** \_\_ ]], too.

The FQ *all* in (44a) modifies the *have* VP with an elided VP whereas the FQ in (44b) has nothing to modify: unlike adverbs such as *always*, the adverbial FQ *all* cannot modify a VP in the post-modifier position (cf. Kim 2000, Kim and Sag 2002).

### 4.3 Extending the modifier analysis

Though this simple VP modifier analysis can capture many distributional possibilities of the FQs, issues still remain with the copula constructions. Observe the following corpus examples:

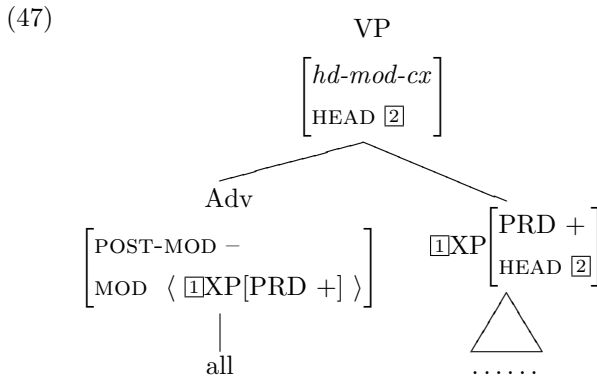
- (45) a. They're **all** young and very wet behind the ears. (ICE-GB:S1A-010 #028:1:B)  
 b. Well they obviously don't approve of it and they're **all** in the same boat. (ICE-GB:S1A-059 #132:1:B)  
 c. The world is unified at the ideal level, but the physical manifestations of the vertebrate archetype are **each** a distinct product of the Creator's will. (BNC: G0H 294)

The FQ here modifies a predicative AP, PP, and even an NP. Following the idea of Baltin (1995), we extend the VP modifier analysis to the predicative modifier analysis. That is, the FQ is taken to modify a predicative phrase, including a VP. Reflecting this, we slightly modify the lexical entry with the introduction of the feature PRD for predicative expressions:

(46) Lexical entry for the FQ *all*:

$$\left[ \begin{array}{l} \langle \text{all} \rangle \\ \text{HEAD} \left[ \begin{array}{l} \text{POS } \textit{adv} \\ \text{POST-MOD } - \end{array} \right] \\ \text{VAL} \mid \text{MOD} \langle \text{XP}[\text{PRD } +] \rangle \end{array} \right]$$

This lexical entry now means that the adverb *all* modifies any predicative phrase, generating a structure like the following:



This predicative modifier approach can get support from examples like (48):

- (48) a. With the windows [**all** [<sub>PRD</sub> open]], we feel very cold.
- b. With the students [**all** [<sub>PRD</sub> happy]], he sang and danced.

In both of these absolute examples, the FQ modifies a predicative phrase. Complex transitive constructions also show us that an FQ can modify a predicative phrase:

- (49) a. John painted the walls [**all** [<sub>PRD</sub> red]].
- b. But I find the boys [**all** [<sub>PRD</sub> quite sympathetic]], if you treat them properly. (BNC: G1A 1253)
- c. That should make you [**both** [<sub>PRD</sub> feel a lot better]]. (ICE-GB:S1A-011 #031:1:A)

Assuming the second complement in the ditransitive verb is a predicative expression, we have no difficulty allowing the FQ to modify this:<sup>4</sup>

- (50) a. I gave the boys [**both** [<sub>PRD</sub> a quarter/quarters]].

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<sup>4</sup> A question may arise how the second complement in the ditransitive construction can bear the PRD feature. For this, see Larson 1988, 1990 and Hale and Keyser 1996 in which the first indirect object functions as the subject of the second direct object within the so-called binary VP-shell analysis. A similar question has been also raised by an anonymous reviewer.

- b. Dad bought the twins [**both** [<sub>PRD</sub> bicycles for Christmas]].

We have seen that the FQ in the sentence final position cannot modify a VP, violating the linear precedence constraint. However, when it is followed by a limited set of PP, it can be saved (Mailing 1976):

- (51) a. \*I saw the men **all** [yesterday].  
 b. \*She found the missing books **both** [quickly].
- (52) a. We arrived **all** [in one piece].  
 b. They disappeared **all** [at the same time].

What is the difference between these two sets of sentences? We can attribute the contrast to the property of the adverbial elements here. Notice that there are two types of prepositions: predicative and simply argument-marking. Consider the preposition *in* in the following two examples:

- (53) a. John is in.  
 b. I placed John in the box.

The preposition *in* in (53a) functions as a predicative one selecting the subject argument whereas the one in (53b) just marks the locative argument. We assume that the PPs *in one piece* and *at the same time* in (52) are used as predicative ones so that they can be modified by the FQ.

Once again, consider the examples we have seen before:

- (54) a. Soldiers stood **all** around the place.  
 b. You could see the mattresses **all** under the sheet.

The PPs here seem to be predicative as can be seen from the following:

- (55) a. **All** is around the place.  
 b. **All** is under the sheet.

The present analysis then allows the FQ *all* to modify the PP. This analysis would also predict that the non-predicative PPs or adverbials cannot be modified by the FQ. This prediction seems to be borne out:

- (56) a. \*I looked at the movies **both** during the party.  
 b. \*He argued with the men **all/both/each** [about politics].

Unlike *all around the place*, *both during the party* does not seem to form a subject-predicative relation:<sup>5</sup>

<sup>5</sup> The ungrammaticality does not change even if we have *all* instead of *both*.

- (57) a. \***Both** are during the party.  
 b. \***All** is during the party.

(56b) is ruled out due to a slight different reason: the PP *about politics* and its presumed subject *the men* are in a different local domain. This means that it cannot function as predicated of the NP *the men*.

In addition, if, following Kayne (1985), we assume the particle in (58a) is predicative, we can expect the FQ can modify this particle:

- (58) a. We turned the lights [**all** [<sub>PRD</sub> out]].  
 b. \*We turned the light out **all**.

As we have seen so far, the feature PRD (predicative) plays a crucial role in English FQ constructions. This is similar to Mailing's (1976) suggestion (further developed by Baltin (1995)) that the FQ in the post-VP position is possible when the constituents that follow the FQs are syntactically and semantically related to the quantified object NPs.

#### 4.4 Remaining Types

There are two types we have not discussed thus far: the FQ in the predeterminer position and the FQ in the sentence final position linked to the object pronoun.

- (59) a. **All** the students came.  
 b. **Both** the students came.
- (60) a. His kindness amazed us **all**.  
 b. Daniel watched them **both**.

As for the predeterminer FQ construction, one may assume that the FQ modifies a sentence, a saturated VP, but evidence indicates that this is different from the adverbial modifier FQ. First of all, the predeterminer FQ has no restriction to be linked to the object:

- (61) a. He met **all** the students.  
 b. \*He met the students **all**.

In addition, simple constituent tests tell us that unlike the FQ modifying a predicative expression, the predeterminer FQ forms a constituent with the linked NP:

- (62) a. It is **all** the students that are going wrong.  
 b. Two boys and **all** the girls came.

As also pointed out by Dowty and Brodie (1984), we observe the difference in scope:

- (63) a. **All** the contestants could have won.

- b. The contestants could have **all** won.

In (63a), either the universal quantifier FQ *all* or the modal *could* can have wider scope with respect to each other. However, in (63b), only the modal can have wider scope. These facts imply that the predeterminer FQ is different from the predicate modifier one even though they both quantify over the associated NP (cf. Kim 2002).

How then can we account for the FQ associated with an object pronoun in the sentence final position? One thing we need to observe is that when the FQ is associated with a pronoun, it must follow the pronoun:<sup>6</sup>

(64) a. \***All** they came.

b. They **all** came.

(65) a. \*I spoke to **all** them.

b. I spoke to **all** the students.

As a way of explaining this, we assume that the FQ linked to a pronoun functions as an enclitic like the copula as in *I'm* or the auxiliary as in *they'll*, though the exact nature of this remains to be questioned (cf. Janke and Neelman 2005).<sup>7</sup>

## 5. Conclusion

There have been two prevailing approaches to English FQ constructions: stranding and modifier analysis. We have seen that looking at real-life examples from a corpus research tells us that both of these approaches are rather incomplete.

In this paper, we have developed a feature-based, non-movement approach, following the direction of modifier approaches. This lexicalist analysis posits no movement operations, but makes use of well-defined lexical properties of the FQ and a handful of grammar rules. We have further extended the modifier approach, borrowing the idea that the FQ is closely linked to the notion of predication. Though we haven't dealt with the semantics of the FQ constructions, addressing issues such as how to link the FQ with the NP it quantifies over, it appears that we need to acknowledge that there exist at least three different types of FQs: FQs modifying a predicative expression, FQs selecting an NP in the predeterminer position, and FQs linked to a pronoun as a type of enclitics. Though these three share many grammatical properties, they seem to behave differently in many respects.

<sup>6</sup> As noted in Bošković (2004), languages differ regarding the position of the FQ linked to a pronoun. Icelandic and Dutch do not allow orderings like (64b).

<sup>7</sup> One additional set of data that this paper doesn't discuss is the contrast between equi and raising verbs pointed out by Baltin (1995):

(i) a. \*They tried all to leave.

b. We persuaded the students all to leave.

One way to capture the contrast is to take *to leave* not to be a simple VP but a sentence. See Kim and Sells (2008) in which an infinitival VP is projected into an S when the subject is 'PRO'.

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