Hebrew Floating Quantifiers:
A Non-Derivational Approach

Ilona Spector

Thesis Submitted in Partial Fulfillment
Of the Requirements for the Degree of M.A.

Supervisor: Prof. Yehuda N. Falk

Department of English
The Hebrew University of Jerusalem

August 2008

Acknowledgments:

I wish to thank my supervisor and mentor Professor Yehuda N. Falk for his endless support and feedback, for inspiration, encouragement and devotion. I also wish to thank all my wonderful teachers at the department, especially to Prof. Malka Rappaport Hovav for her support and guidance and to Dr. Ivy Sichel, who first introduced me to the phenomenon of Floating Quantifiers. Special thanks go to my friend and colleague Pnina Moldovano, without whom this project would have been impossible.

Finally, I thank my family, especially my grandfather Dr. Avraham Spector and Ben Yishai Danieli for believing in me.

CONTENTS

1. Introduction

1.1. The phenomenon

The phenomenon of floating quantifiers has drawn the attention of linguists since the early 70's. This phenomenon is demonstrated in the following example from French (Sportiche 1988):

(1) a. **Tous** les enfants ont vu ce film
all the children have seen this movie
'All the children have seen this movie'.

b. Les enfants ont **tous** vu ce film
the children have all seen this movie
'The children have all seen this movie'.

What is particularly interesting in these constructions is the relation between the quantifier *tous* and the DP *les enfants* in (1b), where it seems that the quantifier has floated rightwards from its DP. Similar constructions exist in Hebrew as well:

(2) a. **Kol** ha-yeladim halxu la-yam
all the-children.MASC.PL went to-the-sea
'All the children went to the sea'.

b. Ha-yeladim halxu **kulam** la-yam
the-children.MASC.PL went all3.MASC.PL to-the-sea
'The children went all to the sea'.

c. Ha-yeladim **kulam** halxu la-yam
the-children.MASC.PL all3.MASC.PL went to-the-sea
'The children all went to the sea'.

1.2. Outline of the paper:

In this paper we propose an analysis of this phenomenon in Hebrew in the LFG framework[1]. It will be argued that sentence (2a), on the one hand, and sentences (2b,c)[2], on the other, present two different semantic and syntactic structures which involve two different, albeit morphologically related quantifiers: NP-adjacent Q *kol* and Floating Quantifier (FQ) *kul [_]*.[3] This claim is supported both empirically and theoretically. Since these two structures involve different c-structures and f-structures, we believe there is no reason to suspect that one structure is derived from the other. The parallel architecture of LFG allows us to accurately describe and explain this phenomenon with respect to Hebrew's internal characteristics.

In section 2 we present two major previous analyses of Floating Quantifiers, namely the derivational and the adverbial. In section 3 we discuss the semantic properties of the Hebrew quantifier *kol*, its manifestation as either NP-adjacent Q or FQ and the semantic differences between them. In section 4 we discuss the syntax of both NP-adjacent Q and FQ. Furthermore, we argue for *kol* being an independent functional category Q together with its c-structural position as the head of QP. More specifically, we claim that NP-adjacent Q is neither the floated nor the adverbial version of Floating Quantifier (as was previously assumed), but rather a Topicalization construction involving Triggered Inversion. We conclude in section 6. Parts of this work, especially section 3, are based on previous work by Spector and Moldovano (2007).

[1]See Bresnan (2000), Falk (2001) and Dalrymple (2001).
[2]However, in the following examples we will be mostly using the structure in (2b), though our account applies to both (b) and (c).
[3]We will be using the term FQ for convenience, although it will be claimed further on that the quantifier does not float. In addition, *kol* undergoes a phonological change when it selects an incorporated pronoun (in terms of Bresnan 2000), namely [o] turns into [u]; thus, this is marked as *kul*[_].

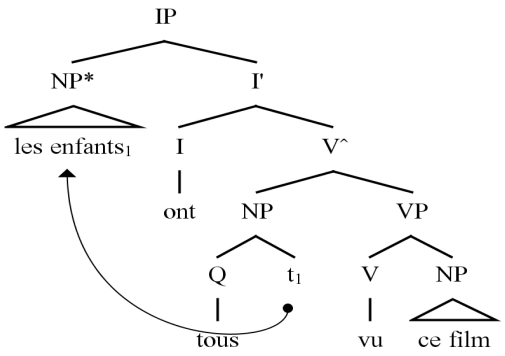
2. Previous Analyses

2.1. Derivational Analyses

The most influential derivational account for the phenomenon of Floating Quantifiers was presented by Sportiche, in his pioneering article from 1988. Several properties of FQs had already been identified and had been considered especially prominent. These properties served as a background for Sportiche's analysis: (1) FQs and DP-initial Qs modify DPs in the same way; (2) In some languages there is agreement between the quantifier and the DP, pointing on determiner-like properties; (3) FQs appear on the left of VPs; (4) There is an anaphor-like locality condition (Bobaljik 2003).

This led Sportiche to assume that the quantification in (1a) and (1b) is identical, i.e. *tous* in both sentences is the same. Q universally quantifies over the set denoted by the DP in both (a) and (b); therefore, it is of the same logical type in both sentences. From this there follows also a syntactic dependency; if Q's modification of DP is the same in both cases, whether Q is DP initial or whether it appears stranded from it, this means that they have the same underlying syntactic structure. FQ forms a constituent with the DP at D-structure and the phenomenon of Q-float is actually the stranding of the Q in a position adjacent to the trace of the DP. Thus, the difference in surface structure in (a) and (b) is captured via derivational mechanism:

(3)



The analysis, thus, manages to capture the initial observations about the properties of FQ, not without assuming and relying upon the VP-Internal Subject Hypothesis. The DP *tous les enfants* originates in the V^ internal thematic position of the subject, A-moves to SPEC IP to get Case, leaving the Q in-situ. The presence of Q in the lower position is thus evidence for the lower origin of the subject NP. Even if Q is stranded from its NP, the antecedent-anaphor relations still hold, subject to principle A. Therefore, this is an NP movement with an NP trace to the right of Q. Since French is a V-to-I language, the raising of the V to Infl. position, together with the subject raising to SPEC IP from its V^ internal position, create an illusion of the rightward float of the quantifier. This analysis captures the observation that was the original motivation for a transformational relation between (1a) and (1b): the Q is able to modify the DP and in some languages to agree with it, since at D-structure [Q DP] is a single constituent (Bobaljik 2003).

Shlonsky (1991a) adopts Sportiche's analysis and accommodates it to Hebrew. His major innovation is his account of the internal structure of the QP and the mechanism of extraction. In order to explain why the Hebrew floating quantifier must be inflected, he presupposes movement and various empty categories (namely the

agreement clitic that sits on the floated Q licenses movement to an empty SPEC QP). In contrast to Sportiche, Shlonsky claims that Q is a head which selects a DP as its complement and forms a QP.

2.2. Adverbial Analyses

The alternative to the derivational analysis treats FQs as adverbs, since they occupy positions in which adverbs canonically surface, namely to the left of V and to the right of verbal elements, such as auxiliaries and modals.

(4) Les soldats ont {tous les deux} été {tous les deux} présentés {tous les deux}
the soldiers have {all the two} been{all the two} introduced {all the two}
à Anne par ce garçon.
to Anne by this boy.
'Both soldiers were introduced to Anne by this boy'. (Kayne 1975:46)

This holds for both English and French. Moreover, the possibilities for the position of adverbs in these languages correspond to the possible positions of placing FQs. For example, English allows an adverb or an FQ to immediately follow the subject, while French does not:

(5) a. My friends all/probably will leave.
b.*Les enfants tous/bientôt vont partir.
'The children all/soon will leave'. (Pollock 1989:368)

It was observed (Sag 1978) that FQs pattern with adverbs, and not with negation in the case of VP-ellipsis:

(6) a. Otto has read this book, and my brothers have (all/certainly) read it, too.
b. Otto has read this book, and my brothers have (*all/*certainly)____, too.
c. Otto has read this book, but my brothers have (n't/not)____.

In Bobaljik (2003) FQ's are anaphoric adverbs, related to their hosts via binding. Another view is that of Baltin (1995) who argues that FQs are preverbs, a class of adverbs adjoined to the left edge of a predicate. By and large then, it appears that FQs occupy adverbial positions in English and French.[4] However, this analysis cannot be accommodated to Hebrew, since it does not account for the impossibility of uninflected quantifier in the 'floated' position (cf. 7) and for the pragmatic markedness of the FQ construction.

(7) a. * ha-yeladim halxu kol la-yam
The-children.3.MASC.PL went all to-the-sea
'The children went all to the sea'.

b. ha-yeladim halxu kulam la-yam
the-children.3.MASC.PL went all.3.MASC.PL to-the-sea
'The children went all to the sea'.

[4] See Hurst (2007) for an LFG account of English FQ *each* which also exhibits similar distribution to some adverbs.

3. Semantics of the quantifier *kol*

3.1. Introduction

Quantifiers are logical entities which serve as functions over sets. Hebrew NP-adjacent Q and FQ *kol* are represented logically by the universal quantifier ∀. As linguistic entities, they usually designate a quantity in numeral or proportional forms. Since quantifiers quantify over individuals or sets of individuals, in natural language they tend to attach to nouns.

Hebrew *kol* is polysemous[5]. It can be translated into English *all*, *any, every*, *each*, *entire*(*ly*) and *whole*:

(8) a. Kol ha-yeladim axlu sukaryot
all the-children ate candies
'**All** the children ate candy'.

b. Kol ha-bayit harus
entire the-house ruined
'The **entire**/**whole** house is ruined'.

[5]Apparently this holds for other Semitic languages, since this homophony exists also in Modern Spoken Arabic (examples by Dana Doulah):

a. kəl əl-awlad rāḥu al-baḥr
all the-children went to-the-sea
'All the children went to the sea'

b. kəl əl-beit mahdum
entire/whole the-house ruined
'The entire/whole house is ruined'

c. kəl walad ʔxtar filəm
each child picked movie
'Each child picked a movie'

d. kəl bint bidha tkun luġawiya
every girl wants be linguist
'Every girl wants to be a linguist'

c. Kol yeled baxar seret
each child chose movie
'**Each** child picked a movie'.

d. Kol yalda rotza lihyot balšanit
every girl wants be.INF linguist
'**Every** girl wants to be a linguist'.

e. Kol ša'a ze beseder
any hour it ok
'**Any** hour is fine'.

In this paper we restrict ourselves to one interpretation of *kol*, namely that of English plural *all*. The *kol* we are dealing with takes a plural, definite noun or a plural incorporated pronoun.[6]

3.2. General Semantic Properties

Like English plural *all*, *kol* is a proportional quantifier. One must know how many sheep there are in order to know what counts as 'kol ha-kvasim' or as 'ha-kvasim kulan' ('all sheep').

It is also a strong quantifier (Milsark 1977). Strong quantifiers, unlike weak ones, such as numerals and *kama* (several), presuppose existence of a background set. Thus, though *kol* as a logically universal quantifier does not entail existence, in language it presupposes existence. This is why, following Milsark's argumentation for English, a strong quantifier like *kol* cannot appear in existential constructions[7]:

[6]We limit ourselves to the constructions in (2a,b).
[7] There are constructions such as:
(1) Kol ha-yeladim yešnam (ba-bayit)
all the-children are/exist (in-the-house)
'All the children are in the house'. (fn. continued on next page)

(9) a. *yeš/yešnam kol ha-yeladim ba-bayit
there are all the-children in-the-house
'*There are all children in the house'.

b. *yeš/yešnam ha-yeladim kulam ba-bayit
there are the-children all.3.MASC.PL in-the-house
'*There are all the children in the house'.

This is due to a clash between THERE BE constructions which entail existence and strong quantifiers which presuppose existence.

Kol is also asymmetric:

(10) a. [**Kol** ha-yeladim xaxamim] ≠ [**Kol** ha-xaxamim yeladim]
all the-children smart all the-smart children
'All the children are smart' 'All the smart are children'.

b. [Ha-yeladim **kulam** xaxamim] ≠ [Ha-xaxamim **kulam** yeladim]
the-children all.3.MASC.PL smart the-smart all.3.MASC.PL children
'The children are all smart' 'The smart are all children'.

Kol is <u>left</u> downward monotone:

(11) a. [**Kol** ha-yeladim halxu la-yam]
all the-children went to-the-sea
'All the children went to the sea'.
↓
[**Kol** ha-yeladim ha-gvohim halxu la-yam]
all the-children the-tall went to-the-sea
'All the tall children went to the sea'.

---

(2) Ha-yeladim kulam yešnam (ba-bayit)
the-children all are/exist (in-the-house)
'All the children are in the house'.
These, however, are different from English THERE BE constructions, especially in the inflectional properties that the verb *yeš* displays. See Falk (2004) for a discussion of Hebrew present tense *yeš*.

The entailment does not hold in the reverse:

b. [**Kol** ha-yeladim ha-gvohim halxu la-yam]
all the-children the-tall went to-the-sea
'All the tall children went to the sea'.

↓

[**Kol** ha-yeladim halxu la-yam]
all the-children went to-the-sea
'All the children went to the sea'.

The case is the same with *kul*[_]:

(12) a. [Ha-yeladim halxu **kulam** la-yam]
the-children went all.MASC.PL to-the-sea
'The children went all to the sea'.

↓

[Ha-yeladim ha-gvohim halxu **kulam** la-yam]
the-children the-tall went all.3.MASC.PL to-the-sea
'The tall children went all to the sea'.

The entailment does not hold in the reverse:

b. [Ha-yeladim ha-gvohim halxu **kulam** la-yam]
the-children the-tall went all.3.MASC.PL to-the-sea
'The tall children went all to the sea'.

↓

[Ha-yeladim halxu **kulam** la-yam]
the-children went all.3.MASC.PL to-the-sea
'The children went all to the sea'.

But, they are <u>right</u> upward monotone:

(13) a. [**Kol** ha-gvarim šarku be-šeket] → [**Kol** ha-gvarim šarku]
All the-men whistled quietly all the-men whistled
'All the men whistled quietly' 'All the men whistled'.

The reverse does not hold:

b. [**Kol** ha-gvarim šarku] → [**Kol** ha-gvarim šarku be-šeket]
all the-men whistled All the-men whistled quietly
'All the men whistled' 'All the men whistled quietly'.

Again, the case is the same with *kul*[_]:

(14) [Ha-gvarim šarku **kulam** be-šeket]
the-men whistled all.3.MASC.PL quietly
'The men whistled all quietly'.
↓
[Ha-gvarim šarku **kulam**]
the-men whistled all.MASC.PL
'The men whistled all'. (Ben-Avi and Winter 2004).

3.3. Semantics of *kol*: NP-adjacent Q vs. FQ

In this paper we are dealing with the phenomenon of floating quantifiers. The quantifier *kol* may appear in this unmarked construction:

(15) kol ha-yeladim halxu la-yam
all the-children went to-the-sea
'All the children went to the sea'.

Or, it can 'float', appearing in this marked construction and surfacing as *kul[_]:*

(16) ha-yeladim halxu kulam la-yam
the-children.MASC.PL went all3.MASC.PL to-the-sea
'The children went all to the sea'.

We propose that two different quantifiers appear in these two constructions, namely NP-adjacent Q and FQ[8]. We motivate this mostly on syntactic grounds, but the two Q's indeed show semantic differences as well:

3.3.1. Type of Predication:

When using a verb which exhibits a distributive or a collective predication, like *herim* (picked up, as in 'picked up a stone'), the reading changes according to the quantifier used.

(17) a. kol ha-yeladim herimu even
all the-children picked up stone
'All the children picked up a stone'.

b. ha-yeladim herimu kulam even
the-children.MASC.PL picked up all3.MASC.PL stone
'The children all picked up a stone'.

The sentence in (17a) has both a collective and a distributive reading. If there is a group of six children, the sentence means either that each of the six children picked one stone (six stones in total) – this is the distributive reading – or that the six children as a group picked up one stone (one stone in total) – this is the collective reading. Sentence (17b), on the other hand, is understood collectively. If there are six children, the most salient reading is that the six children as a group picked up one stone (one stone in total).

To show that this is the case, note that sentence (18a) is fine, while sentence (18b) is odd:

[8] We elaborate on this matter further on. Cf. next section.

(18) a. Kol ha-yeladim herimu even ve-Dani herim even.
All the-children picked up stone and-Dani picked up stone
'All the children picked up a stone and Dani picked up a stone'.

b.?? Ha-yeladim herimu kulam even ve-Dani herim even.
the-children.MASC.PL picked up all3.MASC.PL stone and-Dani picked up stone
'The children picked up all a stone and Dani picked up a stone'.

Again, assuming that there are six children but that Dani refers to an individual who is one of these six children, one may assert sentence (18a), since the reading that each child picked up a stone – the distributive reading – is fine; thus, Dani, like his peers, picked up a stone. The fact that sentence (18b) is odd proves that the distributive reading is less appealing when *kul[_]* is used: if the six children picked one stone as a group, it is infelicitous and redundant to claim that Dani, a group member, also picked up a stone.

3.3.2. Type of Quantification:

Though both Q's take a plural noun and a plural verb, NP-adjacent Q *kol* ranges over sets, while FQ *kul[_]* ranges over members of sets. As a universal quantifier, FQ must range over the whole set: each and every member of it. It is as if the quantifier refers to each member of the set, so even in the case of collective predication, each member is counted in the group effort. This is not the case with *kol*. Thus, the Q in sentence (19a) below reflects a relation between the set of fairies and the set of blondes. In particular, it says that the set of blondes is a subset of the set of fairies. In (19b), however, the Q reflects a relation between individual fairies and the set of blondes. This distinction between NP-adjacent Q and FQ is reflected in logical formulae:

(19) a. Kol ha-feyot blondiniyot
all the-fairies3.FEM.PL blonde3.FEM.PL
'All the fairies are blonde'.
$\forall x(Fx \rightarrow Bx)$

b. Ha-feyot kulan blondiniyot
the-fairies3.FEM.PL all3.FEM.PL blonde3.FEM.PL
'The fairies are all blonde'.
$\forall x(x_{1...n} \text{ is a fairy} \rightarrow Bx)$ [9]

Though both quantifiers presuppose existence, it seems that the presupposition is stronger in the case of FQ. This explains why it quantifies over individuals, as opposed to NP-adjacent Q which may quantify over an empty set.

(20) a. Kol ha-parot ha-sgulot notnot xalav
all the-cows the-purple give milk
'All the purple cows lactate'.

b. ?? Ha-parot ha-sgulot notnot kulan xalav
the-cows.FEM.PL the-purple.FEM.PL give all3.FEM.PL milk
'The purple cows all lactate'.

The expression 'purple cows' denotes an empty set. The fact that it can appear with *kol* as in (20a), but not with *kul[_]* as shown in (20b), supports the claim that FQ presupposes existence of the set denoted by the predicate it quantifies over. Since there are no purple cows, there are no members for *kul[_]* to range over[10].

[9]The notation 1...n indicates individual. Individual quantification is adopted from Rullmann (2003).
[10]There are no purple cows in this world. We are not discussing possible worlds. If *possible* is added, sentence (20b) becomes grammatical:

Itaxen še ha-parot ha-sgulot notnot kulan xalav
possible that the-cows.FEM.PL the-purple.FEM.PL give all3.FEM.PL milk
'It is possible that the purple cows all lactate'/ 'Possibly, the purple cows all lactate'.

3.3.3. Scope Ambiguities:

The interaction of NP-adjacent Q and FQ with modality and/or negation results in scope ambiguities. The readings available vary according to the quantifier: (Dowty and Brodie 1984)

(21) a. Kol ha-mitxarim yexolim lenatzeax
all the-contestants can win
'All the contestants can win'.

b. Ha-mitxarim yexolim kulam lenatzeax
the-contestants3.MASC.PL can all3.MASC.PL win
'The contestants can all win'.

Two readings are available for (21a). In one reading the universal quantifier takes scope over the modal ('yexolim'), namely the sentence means that it is true that all the contestants can win; In the second reading the universal quantifier takes a narrow scope under the scope of the modal and the sentence means that it is possible that all the contestants win. But only one reading is available for (21b): the one in which the universal quantifier, *kol*, takes a narrow scope under the scope of 'yexolim' (can) and the sentence can only mean that it is possible that all the contestants win.

(22) a. Kol ha-mitxarim lo nitzxu
all the-contestants not won
'All the contestants did not win'.

b. Ha-mitxarim kulam lo nitzxu
the-contestants3.MASC.PL all3.MASC.PL not won
'The contestants did not all win'.

In sentence (22a) NP-adjacent Q takes scope over negation and the only reading is that no contestant won. Sentence (22b) has two readings: one in which FQ takes scope over negation, in this case the sentence means that no contestant won, and one in which the quantifier takes a narrow scope under the scope of negation, in this case the sentence means that not all contestants won, namely that some did win.

Moreover, Bobaljik (2003) points out that while FQs are restricted to taking scope in their surface position, NP-adjacent Qs may undergo scope changing operations such as Quantifier Raising and Reconstruction.

The above semantic differences between NP-adjacent Q and FQ support our claim that there are semantic (and therefore syntactic) differences between the two quantifiers. In the same way, Sportiche's (1988) claim that the quantification in constructions (2a) and (2b, c) is semantically identical, is refuted.

We have shown that the two quantifiers, as they are manifested in these constructions, do not belong to the same logical type. Therefore, there is no reason to claim that they are syntactically equivalent.

4. Syntactic analysis

4.1. The Structure of FQ construction

4.1.1. Introduction

As has already been mentioned (cf. §1.2), we propose to analyze the floating quantifier in (2b,c) as Topicalization accompanied by Triggered Inversion[11].

(23) a. [Ha-yeladim-TOP] [halxu kulam- SUBJ la-yam]
the-children.MASC.PL went **all**3.MASC.PL to-the-sea
'The children went all to the sea'.

b. [Ha-yeladim-TOP] [kulam- SUBJ halxu la-yam]
the-children.MASC.PL **all**3.MASC.PL went to-the-sea
'The children all went to the sea'.

In the above examples, *ha-yeladim* has an overlay discourse function Topic. According to the Extended Coherence Principle in LFG, overlay functions must be linked or associated with arguments, such as SUBJ or OBJ; at the same time, they are unable to be core functions on their own. We believe that identification of the overlay function Topic with the core function Subject indeed takes place here, if we assume that *kulam* is the subject of the clause *kulam halxu la-yam*. Thus, the incorporated pronoun on the quantifier is anaphorically bound by the TOPIC and the identification takes place via co-indexation. According to Bresnan and Mchombo (1987), "The extended coherence condition requires that all functions in f-structure be BOUND. A topic is bound whenever it is functionally identified with, or anaphorically binds a

[11] We follow Falk (2006a) in his claim that "…Quantifier Float is not a uniform syntactic construction crosslinguistically".

bound function". As for the alternation in the word order in (23a, b), this can easily be explained by Triggered Inversion, a familiar construction in Hebrew[12].

4.1.2. Basic Assumptions:

This analysis relies on several basic assumptions which we will now try to motivate. At first, a legitimate question to ask is 'how do we know that the NP *ha-yeladim*, as in (23), is indeed a Topic?'.

For Chafe (1976), "the topic sets a spatial, temporal or individual framework within which the main predication holds". According to Dik (1978), "the topic presents the entity 'about' which the predication predicates something in the given setting". And indeed, *halxu kulam la-yam* predicates about *ha-yeladim*, by saying that 'as for the children – they all went to the sea'. Furthermore, Topic represents old or given information (Chafe 1976). *Ha-yeladim* here is the old information, while *kulam* is new. The new information presented in this sentence is that it is all children and not just some that went to the sea, while the set of children is assumed to be known or has already been identified in the discourse. In addition, Topics are usually definite and clause initial (Lambrecht 1981), and this is the case here. Notice that *ha*-yeladim in this construction cannot be indefinite:

(24) * yeladim halxu kulam la-yam
children.3.MASC.PL went all.3.MASC.PL to-the-sea.
'Children went all to the sea'.

[12]We elaborate on these facts after introducing the basic assumptions of this analysis.

According to Bresnan and Mchombo (1987), "the topic designates what is under discussion, whether previously mentioned or assumed in discourse".

Another argument for topicalization is adopted from Bresnan (2000) for Chichewa: In questions, the *wh*-word bears the FOCUS function. One may ask about the subject:

(25) a. [Ha-yeladim] halxu la-yam
SUBJ
b. Mi ata amarta she ___ halax la-yam?
FOC
'Who did you say that ___ went to the sea?'

In floating quantifier constructions *ha-yeladim* CANNOT be questioned:

c. Ha-yeladim halxu kulam la-yam
'The children all went to the sea'.
d. *mi ata amarta she __ halxu kulam la-yam?
'Who did you say that __all went to the sea?'.

The ungrammaticality of (25d) follows from the fact that something cannot at the same time be both TOPIC (old information) and FOCUS (new information); it results in function clash. Thus, *ha-yeladim* is not a SUBJ. Since it refers to the same entity as *kulam*, the only option left for *ha-yeladim* is to be a Topic. Shlonsky and Doron (1992) also claim that topics constitute islands for wh-movement.

The governable grammatical functions can be divided into *semantically restricted* and *semantically unrestricted* functions (Bresnan 1982). The claim that *kulam* functions as a subject in this construction is supported by Fillmore (1986), who

argues that "semantically unrestricted functions like SUBJ and OBJ can be associated with any semantic role". And indeed, in the examples below, *kulam* exhibits a wide range of semantic roles:

(26) a. Ha-yeladim halxu kulam la-yam
the-children went all.3.MASC.PL to-the-sea AGENT
'The children went all to the sea'.

b. Ha-yeladim kiblu kulam matanot
the-children received all.3.MASC.PL presents BENEFACTIVE
'The children received all presents'.

c. Ha-yeladim ohavim kulam et ha-mora
the-children love all.3.MASC.PL ACC the-teacher EXPERIENCER
'The children love all the teacher'.

Now, semantically unrestricted functions can be either OBJ or SUBJ. In this construction, *kulam* is definitely not an OBJ, since OBJ is not selected by the verb, for example (26a) with intransitive verb *go*. This leaves *kulam* with only one possible grammatical function, namely SUBJ.

This analysis enables us to explain the ungrammaticality of a non-inflected quantifier in this position:

(27) *a. Ha-yeladim halxu kol la-yam
the-children.MASC.PL went **all** to-the-sea
'The children went all to the sea'.

* b. Ha-yeladim kol halxu la-yam
the-children.MASC.PL **all** went to-the-sea
'The children all went to the sea'.

When the uninflected Q appears in these positions (more accurately – when the Q does not contain the incorporated pronoun whose function is to provide an anaphoric identification for the Topic), the TOPIC function remains unidentified with a core function, thus violating the Extended Coherence Principle, rendering these sentences ungrammatical. Moreover, our analysis explains why the sentences with FQ are highly marked in Spoken Modern Hebrew. It is only natural that topicalized constructions are discourse marked while the simple sentences with NP-adjacent Q are discourse neutral. Since Hebrew is not a TOPIC-marking language, any such construction is considered marked.

4.1.3. Anaphoric binding and incorporated pronouns

After establishing that *ha-yeladim* is indeed a Topic, we now turn to anaphoric binding and incorporated pronouns. According to Falk (2001), "Topic is an overlay function: laid over the more basic a-functions. This 'identification' may include anaphoric binding in constructions involving Left Dislocations and resumptive pronouns". Since Topicalization is in fact a kind of Left Dislocation construction, this intuition can be extended also to the present discussion.

We have already mentioned that FQ is in fact a quantifier which includes an incorporated pronoun. The incorporated pronoun on *kol*, e.g. 3.PERS.PL.MASC *-am*, provides an identification for the topic: the agreement features that sit on *-am* are co-referential with the same features on the topic. Without it, the topic would remain unidentified with the subject. Therefore, if the features of the pronoun do not agree with those of the Topic, the sentence is ungrammatical:

(28) *ha-yeladim halxu kul-an la-yam
the-child.PL.MASC went.3.PL. all-3.PL.FEM to-the-sea
'The children went all(fem.) to the sea'.

At the same time, the Topic serves as the antecedent for the anaphorically bound incorporated pronoun. Bresnan (2000) argues that "a pronominal inflection will be in complementary distribution with a headed syntactic phrase of the same function. Independent (headed) NPs that co-occur with these pronominal inflections must then have non-argument functions, like the dislocated topics. The incorporated pronoun will agree with such nominals anaphorically, in just the way a pronoun agrees with its antecedent". Furthermore, when mentioning similar constructions in English, Bresnan (ibid.) continues: "This type of topic is sometimes referred to as a dislocated topic or 'external topic' (Aissen 1992, King 1995). When dislocated topics are anaphorically linked to a pronominal element within the clause, what is identified is not the f-str. value of the DF and clause internal function (which would cause a Functional Uniqueness violation), but the referential index of the two functions".

The formal mechanism of anaphoric binding is thoroughly developed and discussed in Dalrymple (1993). For the present discussion, Bresnan's co-indexation will suffice. More arguments in favor of this analysis come also from Bresnan and Mchombo (1987). According to them, "person, number and gender are precisely the pronominal categories which universally show agreement in anaphoric relations".

A point has to be made here about Locality. Only the anaphoric agreement relations can be non local to the agreeing predicator. An incorporated pronoun is a referential argument itself governed by the verb. Anaphoric relations between pronouns and their antecedents are in general non-local to sentence structure, since their primary functions belong to discourse. And indeed, the inflected Q may agree

with Topic that sits several clauses above it, showing that the relation is non-local, which is characteristic of pronominal relations:

(29) Ha-sfarim, [hu amar [še Jocasta kanta et kulam]].
The-books-3.MASC.PL.TOP , he said that Jocasta bought ACC. all-3.MASC.PL
'The books, he said that Jocasta has bought all'.

According to Lambrecht (1981), as well, "topics can be indefinitely removed from the verb".

4.1.4. Triggered Inversion

What is left to explain is the word order alternation, namely the free variation between examples such as (23a) and (23b) when in (a) the verb precedes the subject and in (b) follows it.

In transformational accounts, Triggered Inversion in Hebrew has received much attention (Borer 1995, Shlonsky and Doron 1992, Shlonsky 1997, 1998). In LFG it has been discussed by Falk (2004) for the following constructions:

(30) a. Beyalduto, Eli patar targilei matematika
In childhood.3.SG.MASC, Eli solved exercises mathematics
'In his childhood, Eli solved/used to solve exercises in Mathematics'.

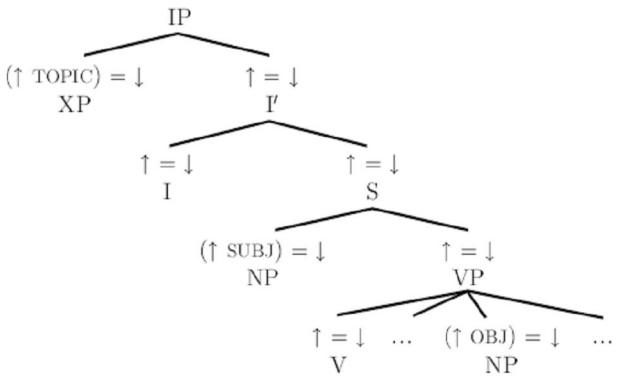
b. Beyalduto, patar Eli targilei matematika
In childhood.3.SG.MASC, solved Eli exercises mathematics
'In his childhood, Eli solved/used to solve exercises in Mathematics'.

Examples (a) and (b) above are free variants, when the sole difference between them is the position of the verb and the subject. While (a) has the regular SVO order, in the

presence of a trigger, the order can be manifested as VSO as in (30b). What exactly is the nature of this trigger and what kind of elements can function as triggers for this S-V alternation? According to Shlonsky (1997) "in Triggered inversion, the verb moves… in the presence of a non subject initial elements". Falk (2004) argues that "an element with discourse prominence can be placed at the beginning of a Hebrew clause". So the NP which bears the TOPIC function seems to be a good candidate for serving as a trigger. It is a non-subject initial element which has discourse prominence.

Moreover, the Triggered Inversion constructions can be manifested as either SV or VS (namely, the inversion is optional) and in the same fashion Floating Quantifier constructions can be either SV or VS, as shown in the above examples. We adopt Falk's approach (2004) in rejecting the Internal Subject Hypothesis and adopting the IP-over-S structure, as seen in (31):

(31)



(Falk 2004)

4.2 Constituency of [NP Q]

As was previously mentioned, we consider both (32a) and (b) below to be variants of Topicalization with optional triggered inversion:

(32) a. Ha-yeladim halxu **kulam** la-yam
the-children.MASC.PL went all3.MASC.PL to-the-sea
'The children went all to the sea'.

b. Ha-yeladim **kulam** halxu la-yam
the-children.MASC.PL all.MASC.PL went to-the-sea
'The children all went to the sea'.

However, a legitimate question that one may ask is whether *hayeladim kulam* in (b) forms a constituent.[13]

4.2.1. Previous analyses

Shlonsky (1991) claims that indeed, this string of words is a constituent and therefore "Q-final construction has the same underlying structure as the Q-initial one, from which it derives transformationally". If true, it would mean that *kol hayeladim* (NP-adjacent Q) and *hayeladim kulam* (FQ[14]) are both QPs of the same type, and therefore something else must account for the appearance of the Floating Quantifier only with an incorporated pronoun.

As already noted by Shlonsky (1991), not all the constituency tests work with the string *hayeladim kulam*. Let us take a look at constituency tests provided by Shlonsky:

(33) a. ha-yeladim kulam zarku avanim
the-children.MASC.PL all.3.MASC.PL threw.PL. stones
'The children all threw stones'

[13]We would like to thank Prof. Malka Rappaport Hovav for raising this question.
[14] i.e. Floating Quantifier in the old terminology. Shlonsky's account makes it clear that the quantifier does not float, but it is the NP that moves.

b. Ze hayu ha-yeladim kulam še-zarku avanim. **CLEFTING**

it was the-children all.3.MASC.PL that-threw.PL stones

'It was the children all who threw stones'

c. Mi-še zorek avanim ze ha-yeladim kulam. **PSEUDO-**

who-that throws stones it the.children all.3.MASC.PL **CLEFTING**

'Those who throw stones are the children all'

d Ha-yeladim kulam, ani batuax še-zorkim avanim **TOPICALIZATION**

the children all.3.MASC.PL I sure that-throw stones.

'The children all, I am sure that throw stones'

e. **??**etmol zarku štei banot ve-ha-banim kulam avanim

yesterday threw two girls and-the-boys all.3.MASC.PL stones

a1 ha-mora.

on the-teacher **CONJUNCTION**

'Yesterday two girls and the boys all threw stones on the teacher'.

As can be seen from (33b-d), clefting, pseudo-clefting and topicalization tests seem to work and show that *hayeladim kulam* is indeed a constituent, on the assumption that only constituents can be clefted. However, there is evidence to the contrary. Consider (34):

(34) a. The allies bombed the city [in Germany] [in 1942].

b. It was [in Germany] [in 1942] that the allies bombed the city[15].

As can be seen in (34b), the fronted string consists of two constituents, namely two adjunct PPs, and surely we would not want to claim that [in Germany in 1942] is one constituent. Therefore, clefting may be not such a good test for showing constituency.

[15] We would like to thank Shahar Shirtz for this example.

As for pseudo-clefting, a possible pseudo cleft of (33b) is (35), depending on the interpretation of the original sentence:

(35) Mi-še zarku kulam avanim ze ha-yeladim
who-that threw.3.PL all.3PL s tones it the-children
"Who threw all stones were the children'

The topicalization test also depends on the interpretation of the original sentence. If we interpret the initial (33a) as already topicalized, and this is exactly what is suggested in this paper, than the topicalization test may be applied differently, yielding (36):

(36) ha-yeladim, ani batuax še-kulam zorkim avanim.
The-children, I sure that-all.3.MASC.PL throw stones.
'The children, I am sure that all throw stones'

Here, *hayeladim* and *kulam* do not remain as a single unit and, therefore, do not form a constituent. This fact strengthens the proposal to treat this string of words not as a constituent. As for Shlonsky's example of Topicalisation (33d), all the native speakers we consulted disagree with the judgment of this sentence and mark it as ungrammatical. In fact, the only possibility they accept is the above (36), where *ha-yeladim* and *kulam* do not form a constituent.

As for the conjunction test in (33e), Shlonsky marks this construction as marginal; the marginality is attributed to the asymmetry of the conjuncts in linear order. However, consider (37a), where the conjuncts are symmetrical but the judgments vary across speakers; some mark it ungrammatical and some mark it odd, and (37b) which is never grammatical although the conjuncts are symmetrical:

(37) a. */?ha-banim kulam ve-ha-banot ruban sixku maxboim.
The-boys all.3.MASC.PL and-the-girls most.3.FEM.PL played hide-and-seek
'The boys all and the girls most played hide-and-seek'.

b. * Ha-yeladim kulam ve ha-xaverim šeli halxu la-yam
the-children all.3.MASC.PL and the-friends my went to-the-sea
'The children all and my friends went to the sea'

Finally, to show that *kol ha-yeladim* and *ha-yeladim kulam* are both identical constituents, Shlonsky coordinates them, but marks the example marginal as well:

(38) **?**raiti et-kol ha-banot ve-et ha-banim kulam
saw.I ACC-all the-girls and-ACC the-boys all.3.MASC.PL
'I saw all the girls and the boys all'.

We would further claim that this example is ungrammatical in Modern Hebrew. This fact may be attributed to the fact that in non-elliptical contexts (cf. 38), only constituents can be coordinated. The analysis put forth in this paper, according to which *ha-banim kulam* is not a constituent, predicts the ungrammaticality of (38) . Furthermore, a typical utterance will be (39), where one uses the quantifier only once.

(39) a. raiti et-kol ha-banot ve-ha-banim
saw.I ACC-all the-girls and-the-boys
'I saw all the girls and boys'.

b. raiti et ha-banot ve-ha-banim kulam
saw.I ACC the-girls and-the-boys all.3.MASC.PL
'I saw the girls and boys all'.

Here, it is possible to coordinate the two conjuncts, since the sole quantifier takes scope over the conjunction. In (39a) the quantifier's scope is [*ha-banot ve-ha-banim]* and in (39b) the quantifier in the final position takes a wide scope as well. Furthermore, Shlonsky's example suggests that if both *kol* and *kulam* are used in the same construction, they have different meanings and/or functions. This fact goes in hand with our suggestions.

4.2.2. More tests

In this section, we will show that *ha-yeladim kulam* does not pass other traditional constituency tests, thus supporting the Topicalization with Triggered Inversion analysis proposed in this paper.

ADVERB INSERTION:

It is known (Radford 1981, 1988, inter alia) that an adverb cannot intervene between parts of a constituent. This is not the case with *ha-yeladim/ ha-tapuzim kulam*:

(40) a.(vadai) kol (*vadai) ha-tapuzim (vadai) hayu (vadai) rekuvim.
(certainly) all (*cert.) the-oranges (cert.) were (cert.) rotten.
'(Certainly) all the oranges (certainly) were (certainly) rotten'.

We can see that the adverb *vadai* may appear before and after the QP *kol ha-tapuzim*, and before and after the copula but it cannot intervene inside the QP. This shows that *kol ha-tapuzim* is indeed a constituent. Now let us see the distribution of the adverb with *ha-tapuzim kulam:*

b. (vadai) ha-tapuzim (vadai) kulam (vadai) hayu (vadai) rekuvim.
(certainly) the-oranges (cert.) all.3.MASC.PL (cert.) were (cert.) rotten
'(Certainly) the oranges (certainly) all (certainly) were (certainly) rotten'.

(40b) shows that the adverb may interfere between *ha-tapuzim* and *kulam,* yielding (40c) and suggesting that *ha-tapuzim kulam* is not a constituent:

c. ha-tapuzim vadai kulam nirkevu
the-oranges certainly all.PL.M got rotten
'The oranges certainly all got rotten'

The same goes for the quantifier *kim'at* (almost):

(41) a. (*kim'at) hatapuzim kim'at kulam (*kim'at[16]) nirkevu
(*almost) the-oranges almost all.3.MASC.PL (*almost) got rotten

b. kim'at kol (*kim'at) ha-tapuzim (*kim'at[2]) nirkevu
almost all (*almost) the-oranges (*almost) got rotten

While the only possible position of *kim?at* with the QP *kol ha-tapuzim* is before the QP (41b), with *ha-tapuzim kulam* it is ungrammatical (41a). In fact, the only grammatical position of *kim?at* in this case is inside the string, after *ha-tapuzim* and before *kulam*, interfering inside the presumable constituent. This fact, once again, stands against the constituency of *ha-yeladim / ha-tapuzim kulam*

PREPOSING:

According to Radford (1988), only phrasal constituents can undergo preposing in certain pragmatically determined contexts. Thus, *kol ha-yeladim* can be preposed:

[16]The quantifier can appear in this position, but only when it has a scope over VP, meaning *all the oranges were almost rotten.*

(42) a. Ani raiti et kol ha-yeladim
I saw ACC all the-children
"I saw all the children'

b. et kol ha-yeladim ani raiti
ACC all the-children I saw
'All the children I saw'

However, *hayeladim kulam* cannot be preposed as a single unit (43b), but only each part at a time (43c, d).

(43) a. Ani raiti et ha-yeladim kulam
I saw ACC the-children all.3.MASC.PL

b.*/? et ha-yeladim kulam ani raiti
ACC the-children all.3.MASC.PL I saw

c. et ha-yeladim ani raiti et kulam
ACC the-children I saw ACC all.3.MASC.PL

d. ha-yeladim et kulam ani raiti
the-children ACC all.3.MASC.PL I saw

SENTENCE-FRAGMENTS:

According to Radford (1988), only phrasal constituents can serve as sentence fragments in an appropriate context. Thus, with *kol hayeldim*, speaker B's answer will yield the constituent we're interested in:

(44) a. kol ha-yeladim halxu la-yam
All the-children went to-the-sea

A: mi halax la-yam?
Who went to-the-sea?
B: kol ha-yeladim
All the-children

However, this test does not hold for *ha-yeladim kulam*:

b. ha-yeladim kulam halxu la-yam
the-children all.3.MASC.PL went to-the-sea

A: mi halax la-yam?
Who went to-the-sea?
B: * ha-yeladim kulam
The-children all.3.MASC.PL

This, once again, suggests that *ha-yeladim kulam* is not a constituent.

COMPLEX QP:

The QP *kol ha-yeladim* can be expanded into a more complex QP by PP modification and remain grammatical:

(45) a.kol ha-yeladim me-ha-gan šeli halxu le-tiyul
All the-children from-the-kindergarten my went to-trip
'All the children from my kindergarten went for a trip'.

However, *ha-yeladim kulam* cannot be expanded into a more complex QP without loosing its grammaticality:

b.* ha-yeladim kulam me-ha-gan šeli halxu le-tiyul
the-children all.3.MASC.PL from-the-kindergarten my went to-trip
'The children all from my kindergarten went for a trip'.

The only possibility is to add the PP after the NP, suggesting that the Q belongs not to the NP *ha-yeladim*, but to the IP *kulam halxu la-yam:*

c. ha-yeladim me-ha-gan šeli kulam halxu le-tiyul
the-children from-the-kindergarten my all.3.MASC.PL went to-trip
'The children from my kindergarten all went for a trip'

The same argument can be made for relative clause modification. Consider (46):

(46) a. kol ha-yeladim še ohavim lisxot halxu la-yam
All the-children that like swim went to-the-sea
'All the children who like swimming went to the sea'.

b. * ha-yeladim kulam še ohavim lisxot halxu la-yam
the-children all.3.MASC.PL that like swim went to-the-sea
'The children all who like swimming went to the sea'.

c. ha-yeladim še ohavim lisxot halxu kulam la-yam
the-children that like swim went all.3.MASC.PL to-the-sea
'The children who like swimming went all to the sea'.

ha-yeladim kulam cannot be modified by a relative clause, while *kol ha-yeladim* can be. The only possibility to add a relative clause and to retain *kulam* is positing *kulam* after the relative clause and not adjacent to *yeladim* (46c). This, again, suggests that the quantifier belongs to *halxu la-yam* and not to *yeladim.*

PASSIVIZATION:

Another test for constituency is passivization, showing that if a string can be passivized, it is a constituent. This test is, of course, only relevant to objects, which via the application of movement appear as the subject of the passive counterpart. Thus, if *ha-yeladim kulam* appears in the object position of the active form, we should expect it to be grammatical as the subject of the passive. However, it is not so:

(47) a. šilamti et ha-xešbonot kulam
paid.I ACC the-bills all.3.MASC.PL
'I paid the bills all'.

b. *ha- xešbonot kulam šulmu
the-bills all.3.MASC.PL were paid
'The bills all were paid'.

c. ha- xešbonot, kulam šulmu
the-bills, all.3.MASC.PL were paid
'As for the bills, they were all paid'

The only available reading of the passive (47b) is the apposition reading (47c), where there is a clear appositional intonation. Evidence for this interpretation is, again, possible adverb insertion:

(48) ha- xešbonot, (vadai, lo, betax, kim'at) kulam šulmu
the-bills, (certainly, not, for sure, almost) all.3.MASC.PL were paid
'As for the bills, (certainly, not, for sure, almost) they were all paid'.

Notice that with the certain constituent *kol ha-yeladim* the passivization test works without different intonation stress and without the ability of adverb insertion:

(49) a. šilamti et kol ha-xešbonot
paid.I ACC all the-bills
"I paid all the bills"

b. kol ha-xešbonot šulmu
all the-bills were paid
'All the bills were paid'.

c. * kol (vadai, lo, betax, kim'at) ha-xešbonot šulmu
all (certainly, not, for sure, almost) the-bills were paid
'All (certainly, not, for sure, almost) the bills were paid'.

ELLIPSIS:

According to this test, when the verb is elided and *but not* is added, the bracketed strings are constituents:

(50) John likes [ice cream], but not [vegetables].

Once again, the test works with *kol ha-yeladim* and not with *ha-yeladim kulam*, showing that the latter is not a constituent:

(51) a. Dani axal et kol ha-tapuzim aval lo et rov ha-bananot.
Dani ate ACC all the-oranges but not ACC most the-bananas.
'Dani ate all the oranges but not most of the bananas'.

b. * Dani axal et ha-tapuzim kulam aval lo et rov ha-bananot
Dani ate ACC the-oranges all.3.MASC.PL but not ACC most the-bananas

c. * Dani axal et ha-tapuzim kulam aval lo et ha-bananot ruban
Dani ate ACC the-oranges all.3.MASCPL but not ACC the-bananas most.3.PL

(51c) shows that the ungrammaticality of (51b) is not due to the asymmetrical alignment of the conjuncts, since even when they are symmetrical, the sentence is still ungrammatical.

4.3. Categorial Status of Q

4.3.1. Introduction

The issue of the categorial status and, subsequently, the structural position of the quantifier with respect to DP/NP was, and remains to this day, quite controversial, with many possible analyses in the literature. Jackendoff (1968, 1977), working in a pre-DP framework, suggested two distinct syntactic categories for the quantifiers, namely that some of them are Ds, and thus they occupy SPEC N'", and the others are Qs, occupying SPEC N". This division was based on the complementary distribution of the quantifiers with the determiners in English, and I will elaborate on this analysis further in this chapter.

Later on, with the introduction of the DP-hypothesis, Abney (1987) suggested analyzing quantifiers as specifiers of DP and Sportiche (1988) argued that the quantifier is, in fact, an adjunct to NP. Shlonsky (1991b) elaborated on Sportiche's analysis of Floating Quantifiers and suggested the now widely accepted QP

hypothesis, according to which some determiners[17] are heads of the projection QP, which selects a DP as its complement.

While in transformational theories the QP-hypothesis, involving N-to-D movement, has become standard, this is not so obvious in theories like LFG, which reject the notion of movement. Moreover, while these theories explain the distribution of determiners and quantifiers in English[18], the situation in Hebrew is somewhat different. Attempts were maid in the pre-DP and pre-QP frameworks to explain the distribution of quantifiers and determiners in Hebrew (Ornan 1964, Doron 1991, Yizhar 1993, inter alia); they are reviewed in the next section.

In the present analysis we will rely on the claim that Hebrew definite article *ha* is not a determiner (Falk 2001, Wintner 2000). Since *ha* is not a full lexical item, but rather a bound affix, and as such, cannot be analyzed as full c-structure node in LFG (and, therefore, it cannot belong to the category D) without violating the Lexical Integrity Principle, it does not head a DP, but rather an NP. As for the indefinite article, Hebrew lacks it completely.[19]

As for demonstratives, they occupy a postnominal position and behave like adjectives, being in a post-head position relative to the NP and with respect to the definite article *the* ; the definite article in Hebrew triggers agreement on attributive adjectives (Falk 2001), thus the definiteness shows up both on the noun and on the modifying adjective. In the same fashion, the definite article appears both on the noun and on the demonstrative. Moreover, demonstratives inflect the same as adjectives, agreeing with the head noun in number and gender. It appears, then, that

[17]Determiners – in the widest sense, including demonstratives, quantifiers, numerals, definite article, etc. In fact, every pre-head element was called 'determiner' at that time.
[18]Shlonsky provides an analysis of Hebrew; we return to his analysis as the chapter progresses.
[19]It can be argued that Hebrew has an indefinite lexeme 'exad' (see Danon 1996) but since its distribution is similar to adjectives, we will disregard it in this paper.

the demonstrative articles are also not Ds in Hebrew. The distribution of the definite article and demonstratives is shown in (52):

(52) ha-kelev ha-katan ha-ze
the-dog the-little the-this
'This little dog'

So, at a first glance, it seems like Hebrew completely lacks the category D, for neither the definite article nor the demonstratives seem like good candidates for membership in this category. If this is so, there is no complementary distribution of determiners and quantifiers in Hebrew and thus no need to postulate a new category Q; The assumption that all these elements occupy the D position in English comes from the complementary distribution of determiners, articles and quantifiers in the first position in the nominal phrase (Giusti 1997):

(53) these/the/many students

On the other hand, if there are no determiners in Hebrew, one could simply claim that the quantifiers constitute the category D, since they are the only prenominal elements in the NP and there is a good reason to believe that they are heads of the nominal constituent (Shlonsky 1991b). Moreover, according to Falk (2006b), "plausible members of the Determiner category in Hebrew are the quantifiers".

However, we believe that there is a limited number of determiners in Hebrew, namely *oto* (and when inflected for number and gender, also *ota, otam, otan*) – 'the same', *eize* (and subsequently *eilu* when plural) – 'which/some', *eizešehu* (and *eizešehi, eizešehem, eizešehen)* – 'some kind of'. There is a good reason to believe that

these are all determiners; semantically, they determine the noun referentially and there is no quantification involved.[20] Moreover, syntactically, they are in complementary distribution with the quantifiers, when the order of the elements (Q D NP) determines the grammaticality:

(54) a. kol otam ha-yeladim
All those the-children
'All those (aforementioned) children'.

b. * otam kol ha-yeladim
those all the-children

If the quantifier *kol* is indeed a determiner on a par with *otam*, and we accept the idea that determiners can be recursive, i.e. stacked (Doron 1991), it is impossible to account for the restrictions on the order of these elements.

4.3.2. Previous analyses for Hebrew

In this section we will review the analysis of Doron (1991) and Yizhar (1993, following Doron), for the Hebrew quantifiers. In her analysis, Doron takes all the quantity expressions discussed in Ornan (1964) and divides them into two groups of the categories D and Q, according to their syntactic behavior. Since in this paper we are only interested in the category of the quantifier *kol* –all, it is interesting to see that according to Doron it is, in fact, a determiner and not a quantifier. Let us look at Doron's division of the quantifiers and the determiners:

[20] See Kagan and Spector (2008) for a discussion of *eize* and *eizešehu*, Danon (1996) for *eize* being indefinite article and Glinert (1989) for *oto* being a determiner.

(55) Quantifiers:

Šloša *avot* – 'three fathers' free form

Šlošet *ha-avot* – 'the three fathers' construct state

Yoter *beayot* – 'more problems'

Reva *šaa* – 'quarter an hour'

Harbe *xalav* – 'a lot of milk'

Meat *tsumet lev* – 'little attention'

Kama *anašim* – 'few people'

Xelek me-*hem* –'part of them'

Kilo *agvaniyot* – 'kilo tomatoes'

Meter *bad* – 'meter of fabric'

Bakbuk *yayin* – 'bottle of wine'

Xaci *šaa* – 'half an hour

(56) Determiners:

Marbit *ha-layla* – 'most of the night'

Rov *ha-anašim* – 'most/the majority of the people'

Maxatzit *ha-misxak* – 'half of the game'

Ikar *dvarexa* – ' the essence of your words'

Šaar ***ha-avoda*** – 'the rest of the work'

Mivxar *ha-kcinim* – 'variety of officers'

Meitav *ha-noar* – 'the best of the youth'

Yeter *ha-kahal* – 'the rest of the audience'

Kol *ha-yeladim* – 'all the children'

Kol *yeled* – 'every child'

Otam *ha-anašim* – 'those aforementioned people'

The argumentation in favor of this division is as follows:

1) Qs can adjoin to N" (NP) also with the preposition *me/min* – 'of', but Ds cannot:

(57) a. šloša me-talmidav

three of- pupils.3.MASC.POSS.

'Three of his pupils'.

b. kilo me-ha-agvaniyot

kilo of-the-tomatoes

'Kilo of the tomatoes'.

c.* rov me-talmidav

majority of-pupils.3.MASC.POSS.

'Three of his pupils'

d.* šaar me-ha-avoda

rest of-the-work

'Rest of the work'.

However, there are Ds (in Doron's terminology) that can take the preposition *me/min*:

(58) a. Marbit me-ha-oxel

most of-the-food

'Most of the food'.

Moreover, *eize*, which we argue to be a determiner, can also take the preposition *me*:

b. Eize me-ha-morim ha-ele at maadifa?

which of-the-teachers the-these you prefer?

'Which (one) of these teachers do you prefer?'

And there are quantifiers (in Doron's terms) that cannot take *me/min*:

(59) a. * Bakbuk me-ha-yayin

Bottle of-the-wine

'Bottle of wine'.

b. * Xatzi me-ha-šaa

Half of-the-hour

'Half an hour'.

In fact, partitivity, whose reflex in Hebrew is the ability to take the preposition *me/min*, is usually attributed to quantifiers, numerals, determiners, adjectives and superlative constructions (Jackendoff 1977). In other words, this is not a property which is unique to quantifiers.

2) According to Doron, only Qs determine the gender and number agreement of the quantified NP with the verb, while Ds never trigger verb agreement:

(60) a.kilo agvaniyot ole/*olot 2 škalim

kilo.MASC.SG. tomatoes.FEM.PL cost.MASC.SG/*FEM.PL 2 shekels

'kilo tomatoes costs 2 shekels'

b. marbit habaxurot ohavot/*ohevet et ben zugan/*ben zuga

majority.FEM.SG the-girls.FEM.PL love.FEM.PL./*FEM.SG. ACC. partner.FEM.PL/ *FEM.SG

'most of the girls love their partner'

However, the same Qs may not determine the agreement, and the verb will agree with the NP, as pointed by Yizhar (1993) and Ornan (1964):

(61) a. Kilo agvaniyot nirkevu/ *nirkav

Kilo.MASC.SG tomatoes.FEM.PL got rotten.PL/ *SG.

'Kilo tomatoes were rotten'

b. Reva šaa avra/ *avar

Quarter.MASC. hour.FEM. passed.FEM/*MASC

'quarter an hour has passed'.

Alternatively, Ds may also trigger verb agreement:[21]

(62) Mivxar ha-šaonim haya gadol/ *hayu gdolim

Variety.MASC.SG the-watch.MASC.PL be.MASC.SG. big.MASC.SG/*MASC.PL

'The variety of the watches was large'.

Falk (p.c.) points that the agreement facts seem to be determined by semantic, rather then syntactic factors; in (60a), when the verb agrees with *kilo* and not with tomatoes, it seems that the speaker is considering the tomatoes as a unit and therefore we get a singular agreement. On the other hand, when the verb agrees with the rotten tomatoes (61a), the speaker does not consider them as a unit, but as a group of individuals. Therefore we get a distributive reading.

3) Qs can be modified or quantified, whereas D can never be quantified or modified by an adjective. Therefore Q constitute QP, however Ds do not project an XP, but appear in SPEC NP[22]:

(63). a. [harbe meod] xalav

a lot very milk

'a very large amount of milk'

[21]Doron points out that since Ds like *rov, xeci* and *maxacit* may also trigger verb agreement, they should simultaneously belong to the category Q as well. It seems that these facts obscure the proposed division

[22]Notice that this paper was written in a pre-DP framework

b. [pi šnayim yoter] beayot

Twice more problems

'twice as much problems'

c. *[ha-kol ha-rav] šel ha-yeladim

The-all the-vast of the-children

d. *[pi šnayim mivxar] ha-kcinim

Twice variety the-officers

Doron herself provides possible counterexamples:

(64) a. Ha-rov ha-maxria šel ha-kita

the-majority the-overwhelming of the-class

'The overwhelming majority of the class'

b. Ha-maxacit ha-rišona šel ha-seret

the-half the-first of the-movie

'The first half of the movie'

c. Ha-xeci ha-maskil šel ha-am

the-half the-educated of the-people

'The educated half of the people'

However, she claims that despite the appearance of D such as *rov, maxacit* and *xeci* as accompanied by an adjective, this is not so; like other Qs, these expressions can determine the agreement of the whole NP with the verb, therefore they need to be classified as Qs as well:

(65) Ha-rov ha-maxria šel ha-kita tamax/*tamxa ba-more
The-majority.MASC the-overwhelming of the-class supported.MASC/*FEM in-the-teacher
'The overwhelming majority of the class supported the teacher'

These facts again raise the doubt in the validity of Doron's Q/D distinction. If certain Ds behave simultaneously like Qs with respect to agreement and therefore have to be classified as both Q and D, perhaps the agreement criterion does not provide the right classificatory tool.

4) Qs have a distribution of NPs and can appear instead of an NP, while Ds cannot:

(66) a. Yeš lanu rov/maxacit/yoter/reva/harbe/kaful/etc.
We have majority/half/more/quarter/many/twice/etc.

b. * Yeš lanu marbit/ikar/šaar/otam/mivxar/kol/etc.
We have majority/most/rest/those/variety/all/etc.

In fact, the determiner *mivxar* can appear in this construction and it is perfectly grammatical in the appropriate context. Consider a situation in which a person walks into a watches store:

(67) A: slixa, atem moxrim po šaonim?
Excuse me, do you sell watches here?
B: ken, yeš lanu mivxar (gadol)
Yes, we have a (big) variety.

Moreover, our informants disagree on the grammaticality judgments with *kaful*, claiming that it cannot predicate *Yeš lanu* on its own, but rather may appear with an additional partitive:

(68) a. * Yeš lanu kaful

Yeš lanu kaful me-X

'We have twice of-X'

It seems that the nature of this distribution lies in the ambiguity of most of the quantifiers; these tests just show that some of them sometimes have noun-like properties and that explains the verb agreement and their distribution, the ability to appear on their own and to be accompanied by a definite article. Danon (1996) argues extensively in favor of this nominal approach.

5) Every NP is accompanied by at most one QP, but the number of Ds is not limited. Therefore, Ds enter a recursive construction; the order of Ds does not matter as long as they precede QP:

(69) kol šaar meot ha-mafginim / šaar kol meot ha-mafginim

*meot kol šaar ha-mafginim/ šaar meot kol ha-mafginim

'All the rest of the hundreds of protestors'

However, Dahan-Netzer and Elhadad (1998) show a contradicting example, in which the order of the so-called Ds does matter:

(70) kol otam ha-yeladim / *otam kol ha-yeladim
all those the-children/ *those all the-children
'All those children'

Moreover, Qs can be recursive:

(71) Kama asrot alfei anašim
few tens thousands people
'several tens of thousands of people'

6) D is always the first element in Construct State nominals (CS), while Q doesn't have to be, although it may:

(72) arbaa yeladim Free State
arbaat ha-yeladim Construct State
'four children'

Unfortunately, Doron does not give examples of Ds in CS. Moreover, if Qs can also be the first element of the CS, the distinction between Qs and Ds here seems opaque.

In fact, we believe that all the elements discussed in Doron can enter CS, but as Danon (1996) points out, monosyllabic words do not have overt morphological construct state marking, therefore they are ambiguous between free and construct state readings. Moreover, it is agreed in the literature that the first element of CS is the head (Wintner 2000. Danon 1996, Ritter 1991, inter alia). This view is compatible both with the fact the that D heads DP and that Q heads QP.

4.4. *kol* as Q:

We would like to propose a different analysis, based on the distribution of determiners and quantifiers in Hebrew. This analysis correctly predicts all the co-occurrences of quantifiers and determiners in the right order and goes in line with Jackendoff (1977) for English and Cardinaletti and Giusti (2006) for Italian. As Qs we consider all the quantity expressions listed in Doron (1991), disregarding numerals and leaving the question of several quantifiers being also Ns open. As was mentioned in the introduction to this chapter, we consider only *oto/a/am/an, eize/o, /eilu, eizešehu/i/hem/hen* as belonging to the category D. The list is by no means exhaustive, but since we are only interested in the category of *kol*, this is just a preliminary attempt to classify the determiners and quantifiers in Hebrew, while trying to correctly generalize the distribution of these elements.

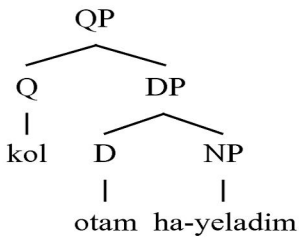
(73) The distribution of determiners and quantifiers:

a) * { *oto / a / am / an*; *eize / o*; *eilu*; *eize*; *eizešehu / i / em / en* } { *kol*; *yoter*(*me*); *reva*(*me*); *meat*(*me*); *kama*(*me*); *xelek*(*me*); *xeci*(*me*); *maspik*(*me*); *hamon*(*me*); *marbit*(*me*); *af*; *šum*; *šaar*; *etc.* } (ha)-yeladim / yeled

b) { kol / yoter(me) / reva(me) / meat(me) / kama(me) / xelek(me) / xeci(me) / maspik(me) / hamon(me) / marbit(me) / af / šum / šaar / etc. } { oto / a / am / an / eize / o / eilu / eize / eizešehu / i / em / en } { eser / aseret _ alafim / mispar / elef / mea / arbaat / etc. } (ha)-yeladim/yeled

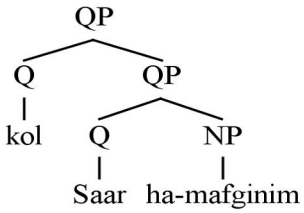
While a) reflects the ungrammaticality of determiners preceding the quantifiers, b) shows the right order of the elements in the NP; the quantifiers can be recursive, while there is only one D per NP, which must appear after the quantifier. Numerals can also be recursive and can appear in CS or free form, as long as they appear closest to the NP. Their distribution shows that they do not share a structural position with the quantifiers, since a determiner may intervene. We leave the question of their categorial status open for further research. The above shown distribution suggests the following syntactic configuration (74):

(74)



According to Doron (1991), Qs (in her terminology) constitute a QP while Ds do not project an XP, but appear in SPEC NP. As we have tried to show in this section, Doron's Ds are in fact Qs and therefore, they do project an XP and can be recursive. This analysis explains Netzer and Elhadad's example (70). The structure is in (75):

(75):



4.4.1. Support from other analyses:

Jackendoff (1968, 1977) divides the English quantifiers into three types; group I contains nouns expressing quantity, such as *a group*, *a herd*, etc. Group II contains quantifiers such as *some*, *each, few, all, both,* etc. and this is the group relevant for the present discussion since it contains the quantifier *all*. Group III includes cardinals and vague numerals such as *a few, many, one* and *three*. He points out that the quantity expressions in groups I and III can be preceded by a determiner, while those in group II cannot :

(76) a. the group(s) of men
b. *the some men
c. the three men

This is consistent with the assumptions of the present analysis, but instead of checking the co-occurrence of the quantifiers with the definite article, we extend it to Ds which

are present in Hebrew (since we are assuming that the definite article is not D in Hebrew):

(77) a. ota/eize kvuca šel anašim

b.*otam/eize kama anašim

c. otam/eize šloša anašim

Moreover, it is claimed that the definite articles can appear once in the construction, unless the NP embedded in the PP contains a relative clause. And indeed, this is consistent with our analysis, if we replace 'definite articles' with Hebrew Ds:

(78) a. the group of men
b. a group of the men
c. *the group of the men
d. the group of the men that had already left

(79) a. ota kvuca šel anašim
b. kvuca šel otam ha-anašim
c. *ota kvuca šel otam (ha)-anašim
d. ota kvuca šel otam ha-anašim še kvar azvu

Further support comes from Cardinaletti and Giusti's (2006) analysis of Italian quantifiers, in which they make a clear distinction between quantifiers that are heads of QPs and those that function as modifiers of the noun in Italian. Qs always precede all other nominal elements, whereas modifiers of the noun can appear in a relatively free order with respect to other nominal modifiers. Thus:

(80) a. alcuni ragazzi HEAD OF QP
'some boys'

b. tutti i ragazzi/ * I tutti ragazzi
'all the boys'/ *the all boys

c. i molti/due ragazzi/ *molti/due i ragazzi SPEC AgrP
'the many/two boys'/ *many/two boys

Contrary to Abney (1987), quantifiers that are not preceded by a determiner are considered heads of the noun phrase (and thus project a QP) and take an NP or a DP complement, and can be definite or indefinite. But whenever the quantifier is preceded by a lexical determiner, the quantifier functions as the specifier of the noun, occupying a SPEC AgrP and the determiner functions as the head of DP. In fact, this behavior of the cardinals and vague numerals is similar to the special position that numerals occupy in Hebrew, and with Jackendoff's group III. This suggests not including these items in the category of quantifiers. Moreover, as can be seen from the Italian data, the quantifier *tutti* 'all' in (80b) is claimed to be external to DP; it is viewed as a head Q, selecting a DP and projecting a QP. The Italian data strongly resembles the distribution of the quantifier 'all' in Hebrew, except the order of the determiners and quantifiers in Hebrew is more rigid, and the determiner cannot precede the quantifier, as was shown in the previous section.

4.4.2. Q as a head:

Cardinaletti and Giusti (1992, 2006) and Shlonsky (1991b) motivate the QP-hypothesis by the fact that selectional properties of the quantifier determine both the features of its DP and the occurrence of the partitive PP. For example, the quantifier

kol in Hebrew and *tutti* in Italian select a definite DP/NP and do not select a partitive PP, as in :

(81) *tutti dei ragazzi
*kol me-ha-yeladim
'All of the children'

Whereas quantifier like *xelek* 'part', is obligatorily partitive:

(82) a. Xelek me-ha-tapuxim
part of-the-apples
'Part of the apples'

b. *xelek ha-tapuxim
part the-apples

Moreover, according to Shlonsky (1991b), the string of words *kol ha-yeladim* forms a constituent. It passes the following constituency tests:

(83) a. Ze hayu kol ha-yeladeim še-halxu la-yam (Clefting)
it was all the-children that-went to-the-sea
'It was all the children who went to the sea'.

b. Mi še-holex la-yam ze kol ha-yeladim (Pseudo-Clefting)
who that-go to-the-sea it all the-children
'Those that go to the sea are all the children'.

c. Kol ha-yeladim, ani batuax še-halxu la-yam (Topicalization)
all the-childrfen, I sure that-went to-the-sea
'All the children, I am sure went to the sea'.

Moreover, it passes additional constituency tests, such as the ones mentioned in §4.2.2. The fact that *kol ha-yeladim* is a constituent motivates us to claim that it forms an XP, whose head, X, selects an NP complement, *ha-yeladim*. As was suggested in previous sections, X is not D but rather Q. What remains to be explained is why Q is a head.

Only heads have selectional properties. NP-adjacent Q *kol* selects plural and definite NP, since '**kol ha-yeled'* (*all the child) is ungrammatical, and *kol yeled* (each child) involves another homophone of *kol*, an entirely different quantifier. FQ *kul[_]* selects a pronominal element. Moreover, Q is a governor: it determines the morphosyntactic form of its sister. And indeed, NP-adjacent Q selects only plural and definite NPs, while FQ selects an incorporated pronoun whose features are determined by its antecedent. According to Wintner (2000), Qs obligatorily require a complement ; therefore, Q is a head and the NP is its complement. QP is distributionally equivalent to its NP. For instance, both QP (with either *kol* or *kul[_]*) and its NP can appear sentence initially (83a), they can both appear in OBJ position (83b) and they can both serve as PP complements(83c):

(83) a.1) **Kol ha-banot/ Kulan** katvu teza
all the-girls /all3.FEM.PL wrote thesis
'All the girls wrote a thesis'.

2) **Ha-banot** katvu teza
the-girls wrote thesis
'The girls wrote a thesis'.

b.1) Ursula maxra et **kol ha-sfarim/kulam**
Ursula sold ACC. all the-books/all3.MASC.PL
'Ursula sold all the books'.

2) Ursula maxra et **ha-sfarim**
Ursula sold ACC. the-books
'Ursula sold the books'.

c.1) Mošit halxa le-**kol ha-hazagot**/le-**kulan**[23]
Moshit went to-all the-shows/to-all3.FEM.PL
'Moshit went to all the shows'.

2) Mošit halxa la-**hazagot**[24]
Moshit went to-the-shows
'Moshit went to the shows'.

Moreover, it is claimed (Wintner 2000, Ritter 1991 , Danon 1996 inter alia), that QPs form a Construct State, and it is well established in the literature that the first element of CS is its head.

[23] When the PP prefix *le-* attaches to *kol*, *kol* undergoes a phonological change where [k] turns into [x], but in Spoken Hebrew this change is usually neutralized.

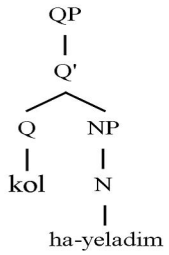
[24] The prefix *la* consists of the PP prefix *le-* and the definite article *ha*

5. Contrasting NP-adjacent Q with FQ:

5.1 Lexical Entry of NP-adjacent Q

kol Q: PRED 'kol⟨(↑ OBJ)⟩'
(↑ OBJ NUM)=$_c$ PL
(↑ OBJ DEF)=$_c$ +

5.2. C-Structure of NP-adjacent Q



5.3 F-Structure of NP-adjacent Q

$$\begin{bmatrix} \text{SUBJ} \begin{bmatrix} \text{PRED} & \text{'kol}\langle\uparrow \text{OBJ}\rangle\text{'} \\ \text{OBJ} & \begin{bmatrix} \text{DEF} & + \\ \text{PRED} & \text{'yeled'} \\ \text{NUM} & \text{PL} \\ \text{GEND} & \text{MASC} \end{bmatrix} \end{bmatrix} \\ \ldots\ldots \end{bmatrix}$$

Despite the convention that the standard categories in LFG which take (↑OBJ) are prepositions and verbs, we believe that since Q functions as head of QP and takes a complement, this should be expressed in the f-structure as well by allowing Q to take (↑OBJ). For supporting argumentation see Fassi Fehri (1988) for

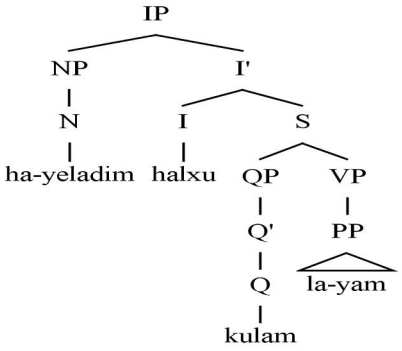
an analysis of Qs taking the complement NP as object in Arabic, and see Maling (1983) for kinds of adjectives that take OBJs.

5.4. Lexical entry of FQ

kul[_] Q: PRED 'kul⟨(↑ OBJ)⟩'

(↑ OBJ PRED) = 'PRO'

5.5 C-Structure of FQ:



5.6 F-Structure of FQ:

$$\begin{bmatrix} \text{TOP} \begin{bmatrix} \text{PRED 'yeled'} \\ \text{DEF} \quad + \\ \text{NUM} \quad \text{PL} \end{bmatrix} i \\ \text{SUBJ} \begin{bmatrix} \text{PRED} \quad \text{'kul}\langle(\uparrow \text{OBJ})\rangle\text{'} \\ \text{OBJ} \begin{bmatrix} \text{PRED} \quad \text{'pro'} \\ \text{PRS} \quad 3 \\ \text{GEND} \quad \text{MASC} \\ \text{NUM} \quad \text{PL} \end{bmatrix} i \end{bmatrix} \\ \text{PRED 'halax} \langle(\uparrow \text{SUBJ})(\uparrow \text{OBJ}_{\text{DIR}})\rangle\text{'} \\ \text{OBL}_{\text{DIR}} \begin{bmatrix} \text{PCASE} \quad \text{OBL}_{\text{DIR}} \\ \text{PRED 'le}\langle(\uparrow \text{OBJ})\rangle\text{'} \\ \text{OBJ} \begin{bmatrix} \text{PRED 'yam'} \\ \text{DEF} \quad + \\ \text{NUM} \quad \text{SGL} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

The anaphoric binding is indicated by the co-indexation of TOPs and SUBJs f-structures.

6. Summary and conclusions

In this paper we explain the Floating Quantifiers phenomenon in Hebrew by showing that there is no floating involved, but these are rather two different syntactic constructions. Our analysis explains both the markedness of the FQ construction and the obligatory inflection of the quantifier in the "floated" position.

(84) *a. Ha-yeladim halxu kol la-yam
the-children.MASC.PL went **all** to-the-sea
'The children went all to the sea'.
*b. Ha-yeladim kol halxu la-yam
the-children.MASC.PL **all** went to-the-sea
'The children all went to the sea'.

When the uninflected Q appears in these positions (i.e., when the Q does not contain an incorporated pronoun whose function is to provide an anaphoric identification for the Topic), the TOPIC function remains unidentified with an argument function (SUBJ); thus, violating the Extended Coherence Principle, rendering these sentences ungrammatical.

As opposed to transformational accounts, we have shown that NP-adjacent Q and FQ are not the same logical entities, and therefore a syntactic dependency between the two constructions does not necessarily follow. Moreover, in contrast to adverbial accounts that are unable to explain the co-reference of the quantifier and its antecedent and are unable to account for the fact that the only possible manifestation of the quantifier in this position is only when it is inflected, our analysis is able to explain why FQ must include an incorporated pronoun by capturing the co-reference between the quantifier and its antecedent via anaphoric binding.

7. References

Abney, S. (1987). *The English Noun Phrase in its Sentential Aspect*. Doctoral dissertation, MIT, Cambridge, MA.

Aissen, J. (1992). Topic and Focus in Mayan. in *Language* 68:43-80.

Baltin, M. (1995). Floating Quantifiers, PRO and Predication. *Linguistic Inquiry*, *26*, 199-248.

Ben-Avi, G. & Winter, Y. (2004). Scope Dominance with Monotone Quantifiers over Finite Domains. *Journal of Logic, Language, and Information* , *13*(*4*), 385-402.

Bobaljik, D. (2003). Floating Quantifiers: Handle with Care. *The Second Glot International State-of-the-Article Book.* Lisa Cheng and Rint Sybesma, eds. 107-148., Mouton de Gruyter.

Borer, H. (1995).The Ups and Downs of Hebrew Verb Movement. *Natural Language and Linguistic Theory 13*: 527–606.

Bresnan, J. (1982) "Control and Complementation." in Joan Bresnan, ed., The Mental Representation of Grammatical Relations Cambridge, Mass.: MIT Press.

Bresnan, J. (2000). *Lexical-Functional Syntax (Blackwell Textbooks in Linguistics)*. Oxford: Blackwell.

Bresnan, J., & Mchombo, S. (1987). Topic, Pronoun, and Agreement in Chichewa. *Language*, *63*(*4*), 741-782.

Cardinaletti, A. & Giusti, G. (1992). Partitive *ne* and the QP-Hypothesis. A Case Study. In E. Fava (ed.) *Proceedings of the XVII Meeting of Generative Grammar: Trieste, Feb. 22-24 1991*. Turin: Rosenberg and Sellier. 122-41.

Cardinaletti, A. & Giusti, G. (2006). The Syntax of Quantified Phrases and Quantitative Clitics. in H. van Riemsdijk & M. Everaert (eds.) *The Blackwell Companion to Syntax*. Blackwell, pp. 23-93.

Chafe, W.L. (1976). Givenness, Contrastiveness, Definiteness, Subjects, Topics, and Point of View. In C.N.Li (ed.) *Subject and Topic.* New York: Academic Press.

Coene, M., & D'Hulst, Y. (2003). *From Np to Dp: The Syntax and Semantics of Noun Phrases (Linguistik Aktuell / Linguistics Today)*. Chapel Hill: John Benjamins Publishing Co.

Dahan Netzer, Y. & Elhadad M. (1998). Generating Determiners and Quantifiers in Hebrew. In *Proceedings of the Workshop on Semitic Languages, ACL'98*, Montreal, Quebec.

Dalrymple, M. (1993). *The Syntax of Anaphoric Binding.* Standford: CSLI

Dalrymple, M. (2001). *Lexical-Functional Grammar (Syntax and Semantics,34).* New York: Academic Press.

Danon, G. (1996). The Syntax of Determiners in Hebrew. M.A. Thesis. Tel Aviv University.

Dik, S. (1978). Functional Grammar. *North-Holland Linguistic Series* , *37*, Amsterdam: North-Holland.

Doron, E. (1991). The NP Structure. In U.Ornan, E.Doron A.Ariely, eds, *Hebrew Computational Linguistics.* Ministery of Science. (In Hebrew).

Dowty, D. R. & Brodie, B.(1984). The Semantics of "Floated" Quantifiers in a Transformationless Grammar. In *Proceedings of the Third West Coast Conference on Formal Linguistics.* Stanford.

Falk, Y.N. (2001). *Lexical-Functional Grammar: An Introduction to Parallel Constraint-Based Syntax.* Standford: CSLI

Falk, Y.N. (2004). The Hebrew Present-Tense Copula as a Mixed Category. *Proceedings of the LFG O4 Conference*, Butt M. and T. Holloway King eds. 226-246, University of Canterbury.

Falk, Y.N. (2006a). *Subjects and Universal Grammar: An Explanatory Theory (Cambridge Studies in Linguistics).* New York: Cambridge University Press.

Falk, Y.N. (2006b). Constituent Structure and Grammatical Functions in the Hebrew Nominal Phrase. *Architectures, Rules, and Preferences: A Festschrift for Joan Bresnan*, Grimshaw J., Maling J., Manning C., Simpson J. and Zaenen A. eds.185-207. CSLI Publications.

Fassi Fehri, A. (1988). Agreement in Arabic, Binding and Coherence. *Agreement in Natural Language: Approaches, Theories, Descriptions*, Barlow M. and C. Ferguson eds., 107-159. Chicago: The University of Chicago Press.

Fillmore, C. J. (1968). The Case for Case. In *Universals in Linguistic Theory* (E. BachAnd R. T. Harms, eds.), 1-210. Holt, Rinehart, and Winston, New York.

Giusti, G. (1997). The Categorial Status of Determiners. In *The New Comparative Grammar*. ed. Haegeman L., 95–123. London: Longman.

Glinert, L. (1989). *The Grammar of Modern Hebrew.* Cambridge University

Press.

Hurst, P. (2007). A Sketch Analysis of "Each" in English. Unpublished manuscript, University of Melbourne, Australia.

Jackendoff, R. (1968). Quantifiers in English, *Foundations of Language* 4.4, 422-442

Jackendoff, R. (1977). *X-Bar Syntax: A Study of Phrase Structure*, MIT Press.

Kagan, O. & Spector, I. (2008). Choosing Among Alternatives: Semantic and Pragmatic Contribution of the Hebrew Determiner *Eize*. To appear in *Proceedings of the 27th West Coast Conference on Formal Linguistics.*

Kayne, R. (1975). *French Syntax: The Transformational Cycle (Current Studies in Linguistics)*. Cambridge, Mass.: The MIT Press.

King, T.H. (1995). *Configuring Topic and Focus in Russian*. Stanford, CA: CLSI Publications.

Lambrecht, K. (1981). *Topic, Antitopic, and Verb Agreement in Non-standard French*. Amsterdam: John Benjamins.

Maling, J. (1983). Transitive Adjectives: A Case of Categorial Reanalysis. *Linguistic Categories: Auxiliaries and Related Puzzles vol.1*, Heny F. and B. Richards (eds).253-289, D.Reidel Publishing Company.

Milsark, G. (1977). Toward an Explanation of Certain Peculiarities of the Existential Construction in English. *Linguistic Analysis*, *3*, 1-29.

Ornan, U. (1964). *Noun Phrases in Modern Hebrew Literature.* Doctoral dissertation, Hebrew University, Jerusalem (in Hebrew).

Pollock, J.Y. (1989). Verb Movement, Universal Grammar and the Structure of IP. *Linguistic Inquiry* 20: 365-424.

Radford, A. (1981). *Transformational Syntax: A Student's Guide to Chomsky's Extended Standard Theory*. New York: Cambridge University Press.

Radford, A. (1988). *Transformational Grammar: A First Course.* New York: Cambridge University Press.

Ritter, E. (1991). Two Functional Categories in Noun Phrases: Evidence from Modern Hebrew. In Rothstein, S. D. (ed.), *Perspectives on Phrase Structure : Heads and Licensing* (Syntax and Semantics 25). New York: Academic Press. 37-62.

Rullmann, H. (2003). Bound-Variable Pronouns and the Semantics of Number. *Proceedings of the Western Conference on Linguistics: WECOL 2002*, Agbayani B., P. Koskinen and V. Samiian eds.243-254, California State

University, Fresno.

Sag, I. (1978). Floating Quantifiers, Adverbs and Extraction Sites. *Linguistic Inquiry* 9: 146-150.

Shlonsky, U. (1991a). Quantifier Phrases and Quantifier Float. *Proceedings of NELS* , *21*, Amherst, GLSA.

Shlonsky, U. (1991b). Quantifiers as Functional Heads: A Study of Quantifier Float in Hebrew. *Lingua*, *84,*159-180. North-Holland.

Shlonsky, U. (1997). Clause Structure and Word Order in Hebrew and Arabic: An Essay in Comparative Semitic Syntax. *Oxford Studies in Comparative Syntax*, New York: Oxford University Press.

Shlonsky, U. & Doron, E. (1992).Verb Second in Hebrew. In D. Bates (ed.) *Proceedings of the Tenth West Coast Conference on Formal Linguistics*, 431-435.

Spector, I. and Moldovano, P. (2007). Hebrew Floating Quantifiers in LFG. Unpublished seminar paper, Hebrew University of Jerusalem. Presented at Departmental Seminar at the Hebrew University, March 18th 2008.

Sportiche, D. (1988). A Theory of Floating Quantifiers and its Corollarie for Constituent Structure. *Linguistic Inquiry*, *19*(*3*), 425-449.

Wintner, S. (2000). Definiteness in the Hebrew Noun Phrase. *Journal of Linguistics*, *36*, 319-363.

Yizhar, M. (1993). Computational Grammar for Noun Phrases in Hebrew. M.A. thesis, Hebrew University, Jerusalem.(In Hebrew).