FLOATING QUANTIFIERS: WHAT THEY CAN TELL US ABOUT THE SYNTAX AND SEMANTICS OF QUANTIFIERS*

Genoveva Puskas (Genoveva.Puskas@lettres.unige.ch)

1. INTRODUCTION

Universal quantifiers may be ambiguous with respect to various interpretive properties, among others distributivity. It is the case for the quantifier *all/tous* and to some extent *each/chaque*[1]. These differences in the interpretation of universal quantifiers are accounted for on semantic grounds by some authors and have recently been analyzed as syntactic properties by others. Beghelli (1995), e.g. proposes that the distributive/collective difference is an intrinsic property of given quantifiers, which is in correlation with their syntactico-semantic properties. A quantifier like *all* is non-distributive while *each* is a strong distributive. On the other hand, Gil (1995) proposes that distributivity is not syntactically encoded. Distributivity is then derived on purely semantic grounds. This approach is also adopted in Baunaz (2002).

The trigger to the present investigation is the question of how to derive distributivity. Floating quantifiers have been treated alternatively as similar to or different from standard (non-floated) quantifiers. The basic observation, though, is that different floating quantifiers (*all* and *each* in English, *tous* and *chacun* in French) have a similar syntactic behavior, but different interpretations. These differences include ambiguity with respect to distributivity. Therefore, a questioning of the relation between floating quantifiers and distributivity is relevant, as we expect it to show whether distributivity is indeed a syntactic property of quantifiers or not. Given the interpretations available, we will conclude that distributivity is not a syntactic property. On the other hand, this leads us inevitably to the question of the analysis of floating quantifiers. There are currently several directions of analysis, which either associate the floated quantifier with the DP on a syntactic basis, or treat them as adverbials entering into semantic relation with the DP. We will see that to some extent, both analyses include part of the solution, but that in the light of recent proposals, a third solution seems more desirable. Basically, I will adopt the idea that floating quantifiers are regular quantifiers, and as such, move to scope positions. The link with distributivity becomes clear, as we will show that these scope positions are not necessarily "distributivity" positions. The paper is organized as follows: section 2 discusses universal quantifiers and distributivity. Section 3 gives the relevant floating quantifier data, while section 4 presents some of the major current analyses of floating quantifiers. Section 5 presents a discussion of floating quantifiers and distributivity, and enables us to reach the conclusion that distributivity cannot be syntactically encoded. In section 6, I develop an analysis of floating quantifiers which integrates the observations that although distributivity is not at stake, these elements are real quantifiers, and therefore behave syntactically as quantifiers. Section 7 is a brief conclusion.

* I would like to thank Léna Baunaz for fruitful comments and inspiring thoughts thanks to which I launched into this investigation. Parts of this paper were presented at the research seminar in the French Department, University of Lund. Many thanks to Susanne Schlyter, Anne Börjesson and the participants to the seminar, as well as to Christopher Laenzlinger. This research is part of a project funded by the Swiss National Science Foundation, grant # 1114-064985.01/1.

[1] Although *each/chaque* is not ambiguous with respect to distributive versus collective reading, it may vary in terms of ditributor/distributee properties.

2. UNIVERSAL QUANTIFIERS

The properties of universal quantifiers with respect to distributivity have been widely examined, primarily from a semantic point of view. The main observation is that they can be subdivided into three groups:
(i) non-distributive (or unmarked)
(ii) "active" distributives (termed distributive-key (Gil 1995), distributor (Beghelli 1995), etc.)
(iii) "passive" distributives (distributive-share, distributee, etc.)
The group represented in (i) is exemplified by *all* in English and *tous* in French. The second group includes *every* and *each*, as well as *chaque* and *chacun.* [2] Group (iii) has no English or French member, but Gil cites some languages which have distinct distributive-share universal quantifiers, such as Georgian and Maricopa. [3]

Given this classification (the descriptive basis of which is used by many authors) the conclusion we reach is that *chacun* (or *chaque*, we will come back to the distinction further down), as well as *each* and *every* have obligatory distributive readings, whereas *all* and *tous* don't. Therefore, the availability of distributive readings for *all/tous* should be related to some property. Let us examine what contexts determine distributive readings:

(1) a. Tous les étudiants ont reçu un prix.
all the students have received a prize
'All the students received a prize.'
b. Chaque étudiant a reçu un prix.
each student has received a prize
'Each student received a prize.'

Whereas (1a) is ambiguous between the collective and the distributive reading of the quantifier, (1b) is not. This, depending on the approach, is predictable (in terms of possible classification, see e.g. Beghelli 1996). However, the same ambiguity does not arise in the pair below:

(2) a. Tous les étudiants ont reçu UN PRIX.
'All the students received A PRIZE.'
b. Chaque étudiant a reçu UN PRIX.
'Each student received A PRIZE.'

In the examples above, *un prix* is focused. While (2b) retains its distributive reading, (2a) is not ambiguous anymore: *tous* can only be collective. A fall-rise intonation, inducing a specific reading of the indefinite, (3a) restores the ambiguity between collective and distributive readings:

(3) a. Tous les étudiants ont reçu ∨ un prix.
'All the students received ∨ a prize.'

[2] Gil notes that *every* and *each* differ syntactically, semantically and pragmatically. He argues that whereas both *each* and *every* are distributive-key, *every* is unmarked for anaphoricity and *each* is marked determined.

[3] Hungarian has a distributee, formed by reduplication of numerals:
(i) három-három
three-three
but it is not a universal quantifier.

b. Chaque étudiant a reçu ∨ un prix.
'Each student received ∨ a prize.'

Note that (3a) can get a distributive reading on the condition that the context permits distributing on events (e.g. in the last ten years). English exhibits the same kinds of ambiguity:

(4) a. All the students won a prize.
b. Each student won a prize.

Again, (4b) unambiguously yields a distributive reading , with each student paired with a (different) prize: (4a), on the other hand, may be collective, but is also compatible with a distributive interpretation on *prize*. Note that it is also possible to get distribution on the event, similarly to (3a).

The problem appears thus as follows: universal quantifiers are split into distributive and non-distributive. The non-distributives can nevertheless receive a distributive reading. The question we need to ask is what the role of distributivity is. Some authors propose that distributivity is syntactically encoded (see Beghelli 1995, 1996, Beghelli and Stowell 1996). Others argue that distributivity is semantic (see e.g. Gil 1995, Baunaz 2002 for a recent approach). In this paper, I would like to examine the correlation between distributivity and universal quantifiers in the light of floating quantifiers. Floating quantifiers all have a similar syntactic behavior, while enabling different readings. Moreover, they seem to exhibit ambiguous readings as well.

3. FLOATING QUANTIFIERS

Quantifiers can float both in French and in English. In both languages, the universal quantifiers which can appear in floating quantifier constructions can be of the types (i) and (ii) discussed in Gil 1995 (see section 1 above). In French, we will consider *tous* both in subject and object related constructions, and *chacun* in the same contexts. The quantifier *chaque* does not appear in floating quantifier constructions (see section 6 below for a discussion). Note that "leaving" the quantifier "behind" forces the object to appear as a preverbal clitic:

(5) a. Tous les enfants ont mangé une glace.
all the children have eaten an ice-cream.
'All the children ate an ice-cream.'
b. Les enfants ont tous mangé une glace.
the children have all eaten an ice-cream
'The children all ate an ice-cream.'
c. Les enfants ont mangé tous une glace.
the children have eaten all an ice-cream

(6) a. Les enfants ont mangé tous les gâteaux.
the children have eaten all the cakes
'The children ate all the cakes.'
b. Les enfants les ont tous mangés.
the children them have all eaten
'the children ate them all.'
c. Les enfants les ont mangés tous.
The children have them eaten all

(7) a. Chacun des enfants a mangé une glace.
each of-the children has eaten an ice-cream.
'Each of the children ate an ice-cream.'
b. Les enfants ont chacun mangé une glace.
the children have each eaten an ice-cream
'The children each ate an ice-cream.'
c. Les enfants ont mangé chacun une glace.
the children have eaten each an ice-cream

(8) a. Un clown a soulevé chacun des pianos.
a clown has lifted each of-the pianos
'A clown lifted each of the pianos.'
b. * Un clown les a chacun soulevés.
A clown them has each lifted
c. Un clown les a soulevés chacun.
A clown them has lifted each

The equivalent English quantifiers appear in similar distributions. Note that *each* can appear without partitive (as opposed the French *chacun*), but also with the partitive version. *Every* can not appear in floating quantifier constructions at all:

(9) a. All the children won a prize.
b. The children all won a prize.
c. * The children won all a prize.

(10) a. A clown lifted all the pianos.
b. * A clown lifted the pianos all.
c. A clown lifted them all.

(11) a. Each child won a prize.
b. The children each won a prize.
c. The children won a prize each.

(12) a. A clown lifted each piano.
b. * A clown lifted the piano each

As mentioned above, although the behavior of floating quantifiers is different form one language to the next in terms of distribution with respect to the co-indexed DP, it is surprising that within a language, the different quantifiers are subject to very similar distributional and syntactic restrictions. If we want to discuss distributivity and floating quantifiers, we need to examine separately floating quantifiers and distributivity. In the following sections, I will briefly expose some of the current analyses of floating quantifiers (section 4) and current discussion on distributivity (section 5)

4. CURRENT ANALYSES OF FLOATING QUANTIFIERS

Most earlier theories can be split into two main groups. Either it is assumed that floating quantifiers are generated in independent positions (adjunction to VP, etc) and that their association with the DP is accounted for by an interpretive rule. This is a semantic-based

approach (see e.g. Dowty et Brodie 1984). The other approach associates the quantifier with the DP syntactically: the quantified DP is generated as a unit, from which the quantifier is stranded to adjoin to a maximal projection (see, among others, Kayne 1975, Maling 1976, Baltin 1978).

4.1. Sportiche (1988)

Sportiche's proposal is akin to the second approach, but introduces a new point of view: rather than assuming that the quantifier floats away from the DP, the idea is that it is the DP which is stranded. Sportiche argues that floating quantifiers appear in an NP-initial position:

(13) $[_{NP}$ Q NP]

Whatever the position of the quantifier, it is followed by an (empty) NP. The consequences of this proposal are well-known: the lower position of subject floated quantifiers is a sister to V'. Sportiche observes that floating quantifiers cannot be assimilated to sentence or manner adverbs, nor to any adverb, as a matter of fact, as far as distribution is concerned. Although they do resemble subject-oriented adverbs (of the kind *intelligently*), they do not have the same distribution or the same properties as these adverbs. The anaphoric relation a floating quantifier entertains with the NP is accounted for by the fact that the NP in (13) is the trace of the NP in subject position. The agreement relation one observes in French is due to the fact that floating quantifiers behave like determiner-type quantifiers.

4.2. Bobaljik (1995)

Bobaljik's (1995) analysis belongs rather to the first category mentioned above. He argues that floating quantifiers are adverbials, which appear in typical adverbial positions, such as the left edge of some maximal projections, mainly of predicative type. The relation between the DP and the quantifier is explained in terms of an interpretive rule, based on Dowty and Brodie (1984). Floating quantifiers like *all* do not directly modify a DP; rather they modify the predicate in a predictable way with respect to a DP. The relation between the quantifier and the argument of the predicate is expressed in the following way:

(14) Quantifier-Floating Construal
Adverbial all adjoined to a predicate causes that predicate to be maximal with respect to a group (or mass) argument of that predicate which is in an A-position and which c-commands the adverb". (Bobaljik 1995:192).

Bobaljik focuses on *all.* The quantifier-DP relation expressed above is illustrated in examples in (15) below:

(15) a. The linguists have $[_{VP}$ all left]
b. The linguists may $[_{VP}$ all have left]
c. The linguists may $[_{VP}$ all seem to have left]
[Bobaljik 1985: 202]

The examples above show that the argument occupies an A-position and c-commands the quantifier *all*. As for the quantifier itself, it cannot occupy an argument position (that is the base position of the subject, as proposed by Sportiche) since:

(i) although the post-verbal position is attested as a DP-trace position in passive and unaccusative constructions, these positions do not host the floating quantifier:

(16) a. * The magicians have arrived all
b. * The votes have been counted all
[Bobaljik 1995:205]

(ii) floating quantifiers can occur at the left edge of other constituents than the VP (this is also noted in Maling 1976):

(17) a. The magicians disappeared all [$_{PP}$ at the same time]
b. The voters arrived all [exactly at six]
[id.:213]

(iii) the example below shows that an approach in terms of traces is incompatible with the interpretations yielded by floating quantifiers:

(18) a. All the students and professors came to the show.
b. Students, professors and clowns all came to the show .

In (18a), *all* quantifies on either students or students and professors. In (18b), the preferred interpretation is that of an existential quantification on the bare DPs: some students came, some professors came and some clowns came. Bobaljik argues that an approach in terms of traces should produce the same quantificational force both in (18a) and in (18b), whereas an adjunction to XP yields quantification on the predicate.

Summarizing, the arguments that lead Bobaljik to adopt an adverbial analysis for the floating quantifier *all* are that floating quantifiers appear exactly in positions where we do not expect DP traces (such as the left edge of adjuncts which entertain a predicative relation with a c-commanding argument); however, as opposed to other adverbials, they are subject to the condition that they must be c-commanded by an antecedent in an A-position.[4]

4.3. Beghelli (1996)

Recent work by Beghelli (1995, 1996), and Beghelli and Stowell (1996) have shed a new light on the problem of quantifiers. Beghelli (1995) proposes an approach to quantification which questions the scope uniformity assumptions. He observes that different types of quantifiers have different scope properties, which he associates with different syntactic positions. To each type of quantifiers corresponds one logical function, and is associated one syntactic feature:

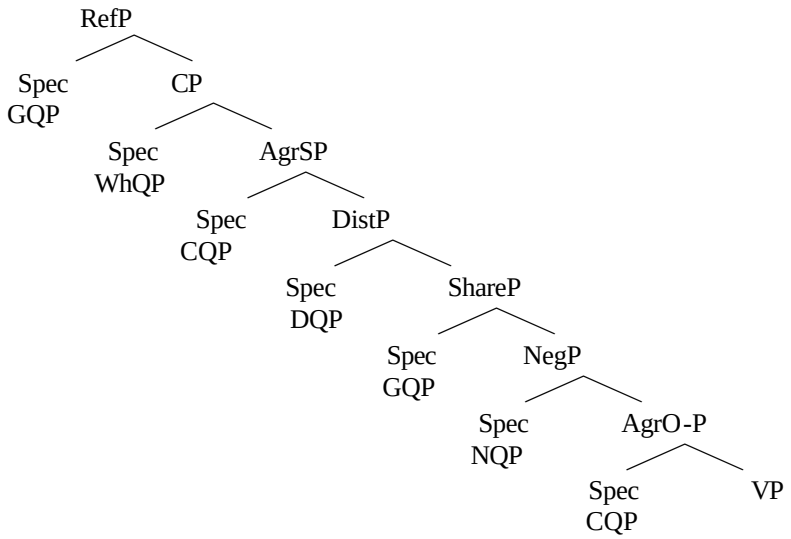
(19)
(i) interrogative quantifiers (WhQPs) associated with a [+wh] feature
(ii) negative quantifiers (NQPs) associated with a [+neg] feature

[4] This is illustrated with the following examples , which show that a floating quantifier is not licensed by an antecedent in a wh-, topic or relative position:
(i). a. the children have all been invited to this party
. b. the children all seem to have understood Orin's instructions.
c. *The professors who Taylor will have all met before the end of the term (relative)
d. * These professors, Taylor will have all met before the end of the term (topic)
e. * Which professors will Taylor have all met before the end of the term? (wh)

(iii) distributive universal quantifiers (DQPs) bearing a [+dist] feature
(iv) counting quantifiers (CQPs). this group includes monotone decreasing quantifiers. They form a separate class, as they count individuals endowed with a property and have a very local scope.
(v) group denoting quantifiers (GQPs), including indefinites, bare numerals, but also definites. The heterogeneous group has a common property, that of denoting groups. The ability for these elements to have wide scope derives from their capacity to introduce a group referent.

The syntactic positions associated with these functions are given in the structure below:

(20)



The positions are not necessarily realized as surface positions. In English, the quantifiers move at LF. The differences with standard QR are:
(i) the movement is not of an adjunction type, but is movement to the specifier of a specialized functional projection.
(ii) the motivation for the movement is not scope, but the checking of the syntactico-semantic features. Scope is only a by-product of feature-checking.

In Beghelli's classification, *each* et *every* belong to the category of DQPs. Their movement is motivated by the requirement that they check the feature Dist, under agreement with a distributive operator. The latter appears in the head of the functional projection DistP. *All* is not distributive, it does not appear in a Dist projection, but in the positions which license group denoting quantifiers.

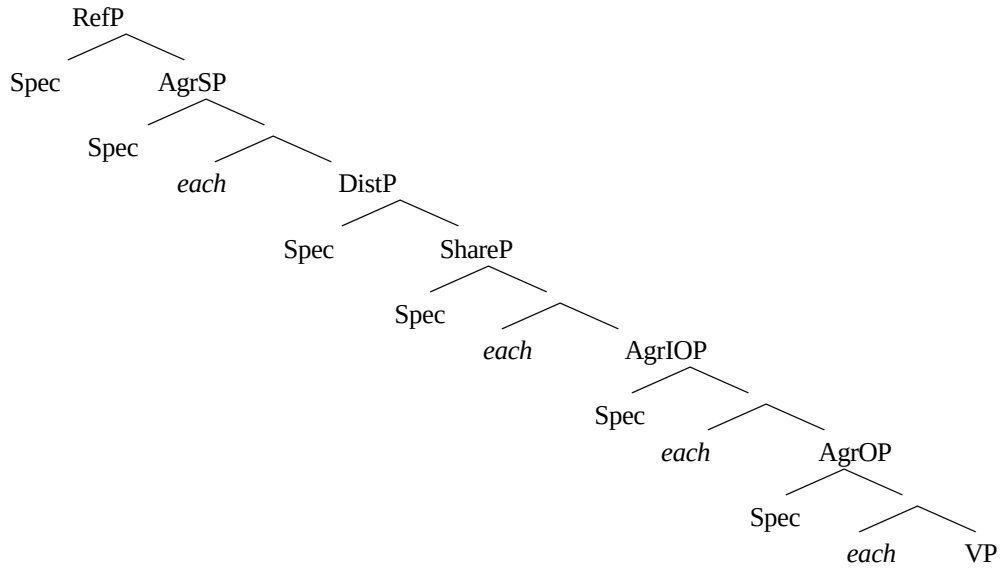
Floating quantifiers, as proposed in Beghelli (1996), are distinct from these quantifiers. They are adverbial elements. In the construction in (21), the quantifier *each* is an adverbial, similar to "binominal each" (Safir & Stowell 1989):[5]

[5] Binominal *each* has the following properties:
(*a*) it does not license *a different N*.
(*b*) it cannot modify a subject
This is illustrated in the examples below:

(21) Two students each read a book

Although Beghelli does not discuss floating quantifiers in detail, he suggests that they are similar to "silent each" ("Silent *each* is a covert counterpart of binominal *each*, which occurs in the position to which binominal *each* has raised. Thus, in LF, silent *each* is comparable to a floated quantifier". (Beghelli 1996: 375) He argues that silent *each* is implied in pseudo-distributivity constructions. Crucially, pseudo-distributivity does not implicate DistP. Beghelli, following Cinque (1994, 1999), assumes that silent *each* is generated in AgrXPs, to which he adds ShareP:

(22)



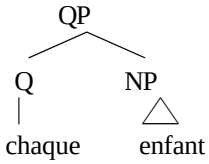
As illustrated in (22), Beghelli assumes the presence of a bare adverbial (silent) *each*, distinct from the distributive operator. This adverbial *each* appears only in agreement positions and in ShareP. A Group denoting quantifier can serve as an antecedent to this adverbial element if it has a trace in the specifier of one of these projections (the distributed QP must be in the c-command domain of silent *each* at LF). Beghelli suggests that floating quantifiers are similar. So both floating *each* and floating *all* are adverbial elements, which differ from the regular homophonic quantifiers.

4.4. Junker (1995)

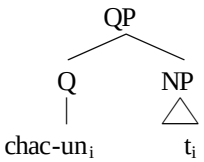
Junker discusses quantifiers in French. She proposes that quantifiers are functional categories selecting an NP. The category Q takes as a complement a lexical category NP. This amounts to dealing with all quantified phrases in an identical fashion. So the quantified NP in (23a) has a structure as in (23b), and is parallel to what looks like a bare quantifier (24):

(i) ???Five students read a different book each
(ii) *A student each visited five professors

(23) a. chaque enfant
b.

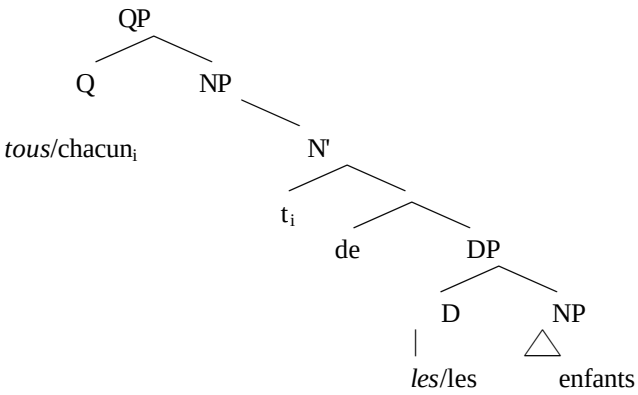


(24) a. Chacun
b.



The partitive variants, such as *tous les enfants*, *chacun des enfants*, differ only in that the quantifier selects a DP:

(25)a. tous les enfants/ chacun des enfants
b.



The internal composition of the quantified NP/DP is thus similar to bare quantifiers. At the sentence level, Junker proposes that the quantified phrase be adjoined to different positions, such as the VP, in floating quantifier structures. The important points of her analysis are that floating quantifiers do not differ from quantified phrases.[6]

4.5. Doetjes

Similarly, Doetjes argues that floating quantifiers are identical to standard, non-floated quantifiers. She observes that sentences with floating quantifiers do not differ from sentences with non-floated quantifiers in terms of truth conditions. This contrasts sharply with degree quantifiers, which can be assumed to be adverbial:

[6] However, Junker proposes a derivationally ambiguous approach which consists in creating the adjunction in the process of the derivation, as the D-structure contains only the arguments, that is the elements receiving a theta role.

(26) a. Ces enfants ont chacun lu un livre.
these children have each read a book
'These children each read a book.'
b. Chacun de ces enfants a lu un livre.
each of these children has read a book
'Each of these children read a book.'

(27) a. Ces enfants ont beaucoup travaillé.
these children have a-lot worked
'These children worked a lot.'
b. Beaucoup de ces enfants ont travaillé.
a-lot of these children have worked
'A lot of these children worked.'

Floating quantifiers behave like adnominal quantifiers. Doetjes proposes that quantifiers are generated in "adverbial positions" (that is adjoined positions), and bind an empty category in an argument position:

(28) $[_{XP}\ FQ_i\ [_{XP}\ \text{---}ec_i \ldots]]$

The empty category is the trace of the NP with which the floating quantifier is associated from the interpretive point of view. Doetjes argues that floating quantifiers such as *tous* and *chacun* are quantified NPs, which contain a null pronominal element standing for the domain of quantification:

(29) Tous:
$[_{QP}$ tous $[_{DP}$ pro$]]$.

Thus, a sentence like (30a) will have a (simplified) representation as in (30b):

(30) a. J'ai tous voulu les voir.
I have all wanted them to-see
'I wanted to see them all.'
b. j'ai $[_{VP}\ tous_i\ [_{VP}$ voulu les$_i$ voir $t_i]]$

and (31a) will have a structure as in (31b):

(31) a. Les enfants ont tous dormi.
the children have all slept
'The children all slept.'
b. les enfants$_i$ ont $[_{VP}\ tous_i\ [_{VP}\ t_i$ dormi]

Note that in (31), the subject originates from within the VP, where it leaves a trace, and is co-indexed with the quantifier which is adjoined to the maximal projection.

Basically, the approaches to floating quantifiers can be divided into two groups: either floating quantifiers differ from non-floated quantifiers, and are adverbial –or semi-adverbial- elements. Or, they are instances of standard quantification which have additional properties, in terms of interpretive indexation with a DP. I would now like to examine what these different approaches can say about the –optional or obligatory – distributivity of floating quantifiers. This is discussed in section 5. Although these analyses each propose some

solution, none of them integrates all the data. The lack of a unified treatment will lead me to propose yet another analysis, which is presented in section 6.

5. FLOATING QUANTIFIERS AND DISTRIBUTIVITY

5.1. French

Let us examine the data. I will first consider *chacun* and *tous* separately, and give a global account at the end of the section.

5.1.1 *Chacun*

The examples in (32-34) illustrate cases where the quantifier is associated with the subject:[7]

(32) a. Chacun des architectes a reçu un prix.
each of-the architects has received a prize
'Each of the architects received a prize.'
b. Les architectes ont chacun reçu un prix.
the architects have each received a prize.
c. Les architectes ont reçu chacun un prix.
the architects have received each a prize

(33) a. Chacun des collègues a signé la carte.
each of-the colleagues has signed the card
'Each of the colleagues signed the card.
b. Les collègues ont chacun signé la carte.
the colleagues have each signed the card
c. ?? Les collègues ont signé chacun la carte.
the colleagues have signed each the card

(34) a. # Chacun des enfants a reçu ∨ un prix.
Each of the children has received a prize
'Each of the children received ∨ a prize.'
b. Les enfants ont chacun reçu ∨ un prix.
The children have each received a prize
c. Les enfants ont reçu chacun ∨ un prix.
The children have received each a prize

In (32), the variants with non-floated and with floated *chacun* all receive a distributive interpretation: there are different prizes for each architect. Although (33a) and (33b) are both fine, and receive a distributive reading, the distribution can only operate on events: since *la carte* is definite, it is difficult to conceive of different cards. The signing events, on the other hand, may be multiple. In this case, I adopt the proposition expressed in Davidson (1976). Davidson argues that predicates take not only individual arguments of type <e> (that is, DPs) but also an eventive argument to constitute a sentence with a truth value (type <t>). This means that distributivity can also apply on the eventive argument. The acceptability of (33c)

[7] Although I give a word-for-word gloss for each example, I will not systematically give full translations, as the meanings may diverge from the English equivalents. Parallel examples are discussed for English in sections 5.1.3 and 5.1.4.

is sharply reduced (compare with 32c): there seems to be no access to a distribution over events. In (34), the diacritic ∨ indicates a fall-rise intonation associated with specificity (see Baunaz 2002). Here, the distribution does not obtain in (34a), in a position where the quantifier is next to the DP. On the other hand, both (34b) and (34c) are fine, provided, obviously, that the distribution bear on the event of receiving, the specificity intonation of the object forcing it to have a unique referent.

The restrictions on distributivity can also be observed in other positions. The examples below deal with the quantifier associated with the object position:

(35) a. Les autorités ont remis un prix à chacun des architectes.
the authorities have given a prize to each of-the architects
'The authorities gave a prize to each of the architects.'
b. Les autorités leur ont remis à chacun un prix.
the authorities them have given to each a prize
c. Les autorités leur ont remis un prix à chacun.
the authorities them have given a prize each

(36) a. # Les autorités ont remis ∨ un prix/le prix à chacun des architectes.
b. # Les autorités leurs ont remis ∨ un prix/le prix à chacun.
c. # Les autorités leurs ont remis a chacun ∨ un prix/le prix.

In (35), *chacun* gets a distributee reading. This obtains easily, since *un prix* is indefinite. Note that in French, the object floating quantifier construction requires that the stranded object be a preverbal clitic. This, I think, does not pose a problem *per se* for the analysis. (36) differs from (35) in the object: here, *un prix* is indefinite specific (signaled by the ∨ diacritic), or, alternatively, definite. The distributive reading becomes very difficult to access. The quantifier cannot get a distributee reading. The only unlikely reading is that the authorities successively give the prize to and then take it away from each architect to give it to another architect. Any collective interpretation is unavailable, as attested by the unacceptability of (36).

5.1.2 *Tous*

Consider now parallel examples with *tous*, first associated with the subject:

(37) a. Tous les architectes ont réalisé un projet.
all the architects have realized a project
'All the architects realized a project.'
b. Les architectes ont tous réalisé un projet.
the architects have all realized a project
c. ?? Les architectes ont réalisé tous un projet.
the architects have realized all a project.

(38) a. Tous les collègues ont signé la carte.
all the colleagues have signed the card
'All the colleagues signed the card.'
b. Les collègues ont tous signé la carte.
the colleagues have all signed the card

c. ?? Les collègues ont signé tous la carte.
The colleagues have signed all the card

(39) a. Tous les clowns ont soulevé un piano.
all the clowns have lifted a piano
b. Les clowns ont tous soulevé un piano.
the clowns have all lifted a piano

(40) a. Tous les clowns ont soulevé le piano.
all the clowns have lifted the piano
b. Les clowns ont tous soulevé le piano.
the clowns have all lifted the piano

(41) a. Tous les enfants ont lu le livre.
all the children have read the book
b. Les enfants ont tous lu le livre.
the children have all read the book

The set of examples here shows that interpretations may vary, and in a rather subtle way. However, they do not seem to vary according to the position of the quantifier, but rather according to semantic properties and/or pragmatic likelihood. (37a) is ambiguous between a collective and a distributive reading (either each architect realizes individually a project or the set of architects realizes one collectively); (37b) is ambiguous as well, but there is a preference among informants for the distributive reading. (37c) is degraded, for some mysterious reason (at least under a neutral intonation)[8] . Again (38), in which the object is a definite DP, enables both a collective and a distributive reading, the distribution bearing on the event of signing, and again, informants have a preference for the distributive reading for (38b) as compared to (38a). This seems to show that indeed, the position of the quantifier determines its collective versus distributive reading. However, if we look at (39) and (40), the tendency is not confirmed. Both the a and b versions have a clearly collective interpretation, with variants among informants as to the distributivity of (39b). The definite object in (40b) seems to tilt the scales toward a collective reading. Finally, (41a) may be distribution over events of reading, confirmed by (41b), which is strongly interpreted as distributive.

What the data reveal is that the collective or distributive reading depends much more on what is accessible, or pragmatically plausible: the clowns lifting pianos are visualized as a collective event, because apparently it is more difficult to access the individual lifting event. On the other hand, most informants, when questioned, find it "more normal", that books are read individually, hence the distributivity preference for (41). Therefore, distributivity does not seem to be determined merely by positions. On the other hand, what positions do determine – and without surprise – is the scope of quantifiers. So, for example, the pair in (38) contrasts in that (38b) seems to bear more directly on the event of the signing, emphasizing a distribution on individual events.

The quantifier *tous* in object position also exhibits variations:

(42) a. Les autorités ont remis un prix à tous les architectes.
the authorities have given a prize to all the architects
'The authorities gave a prize to all the architects.'

[8] Focal intonation changes the interpretations of floating quantifier constructions.

b. Les autorités leur ont tous remis un prix.
the authorities them have all given a prize
'The authorities gave them all a prize
c.??/* Les autorités leur ont remis tous un prix
the authorities them have given all a prize

(43) a. Les invités ont vu tous les films.
the guests have seen all the films
'The guests saw all the films.'
b. Les invités les ont tous vus.
the guests them have all seen
c. Les invités les ont vus tous.
the guests them have seen all

(44) a. L'invité a mangé tous les gâteaux.
the guest has eaten all the cakes
b. L'invité les a tous mangés.
the guest them has all eaten
c. L'invité les a mangés tous.
the guest them has eaten all

(45) a. Les invités ont mangé tous les gâteaux.
the guests have eaten all the cakes
b. Les invités les ont tous mangés.
the guests them have all eaten
c. Les invités les ont mangés tous.
the guests them have eaten all

In (42), the distributive reading is the most natural one. Note that the collective reading is not out. In (43) on the other hand, the collective reading is the most available one. There is, apparently, no difference depending on the position of the quantifier. Note however that (43c) has a slightly different reading: the utterance is acceptable as a correction, a contrast. The context in which it would be appropriate is that someone say that X saw three /only three films during the festival. As a contrast, *les invités les ont vus tous* is acceptable. This suggests some focus-like interpretation. The intonation pattern could corroborate such an interpretation. Whereas (44) is unambiguously collective (the distribution over events is not available), (45) is ambiguous, whatever the position of the quantifier. Here again, the sentence final *tous* is somehow emphatic.

5.1.3 *each*

Let us now turn to English quantifiers. Consider the data below, associating *each* with the subject:

(46) a. Each child received a present.
b. The children each received a present.
c. The children received a present each

(47) a. Each child talked to Santa Claus.
b. The children each talked to Santa Claus.
c. * The children talked to Santa Claus each.

The subject-related *each* is clearly distributive. When the object cannot be distributed over, there is an event distribution reading (46). Note that the (c) examples may belong to another type, as proposed in (Safir & Stowell 1989) for binominal *each* and in (Bobaljik 1995) for adverbial "completive" *all.* I will only consider the distributions in (46, 47 a,b). For some reason, there is no object floated *each* in English.

4.1.4 *all*

Similarly, the *all* floated quantifier may appear in different positions[9]:

(48) a. All the children read a book.
b. The children all read a book.

(49) a. All the teachers worked in a class.
b. The teachers all worked in a class.

(50) a. All the clowns lifted a piano.
b. The clowns all lifted a piano.

(51) a. All the clowns lifted the piano.
b. The clowns all lifted the piano.

(52) a. All the visitors signed the guest book.
b. The visitors all signed the guest book.

As for French *tous, all* is ambiguous between the collective and the distributive readings. In (48), the interpretation can either be collective, or distributive, with the children reading different books. Similarly, in (49), the teachers either work all together in one given class, or may work in different classes. The contrast between a distributive and a collective trend is similar to French: whereas (50a) and (51a) preferably yield a collective reading, (52a) rather suggests a distributive reading, where the visitors distribute over events of signing. And similarly to French, it seems that the position of the quantifier does not force straightforwardly one or another reading. The English examples, in that sense, are extremely parallel to their French counterparts.

Finally, let us consider object *all.*

(53) a. The dean will see all the candidates on Monday.
b. The dean will all see them Monday.
c. ?? The dean will see them all on Monday.

[9] Similarly, the sentence final *all* is excluded in these sentences:
(i) *The children read a book all
This again seems to suggest that the adverbial *all* discussed in Bobaljik 1995 is different.

As for French, the floated quantifier only appears with the pronominal object. (53c) has a degraded status, which might be linked to the requirement of some special emphasis intonation. The question we must now address is the nature of distributivity.

5.2 Distributivity

Recall that Gil (1995) proposes that distributivity is semantically derived. He argues that *all* is simply a universal quantifier (as in other languages). *Every* is "restricted" as it has, as an additional property, distributivity. Gil derives the possibility to get distributive interpretations from the possibility to associate the quantifier with singular indefinite environments. This gives to distributivity a strictly semantic import, which can be calculated on the basis of possible associations. Extrapolating, we could say that if an element is potentially distributive, it must look for some element on which it can distribute. If it is possible, then distribution arises. However, this looks much more like the properties we observe for *all*, which can distribute exactly when it finds a distributee. *Each* and *chacun* do not have the choice: if they do not enter some distribution relation, the result is uninterpretable.

This type of objection does not arise in Beghelli & Stowell's account for distributivity. As quantifiers are classified in terms of syntactico-semantic features, distributivity is the relevant feature for *each/every*. But how does *all* get a distributive reading? Beghelli (1996) proposes a distinction between *Strong Distributivity* and *Pseudo-Distributivity*. Strong Distributivity (as exemplified by *each* and maybe *every*) requires both a distributor and a distributee. In the presence of a distributive quantifier, the head of DistP is activated by a spec-head relation with a DQP element (in other words, the distributive quantifier must move to DistP), and Dist will select ShareP to host the distributee: "the share is required to be, semantically, a QP that can co-vary with the distributor (…) thus both GQPs, which introduce group referents, and/or an existential quantifier over the event argument have access to Spec of ShareP." (Beghelli 1996:373). Although the movement itself is required by feature-checking, the result is that quantifiers appearing in DistP support a distributive reading as soon as there is an element which can function as a distributor. Therefore, the distributive reading is predicted whenever the movement to the relevant syntactic position is possible. As the movement is covert in English, the analysis also predicts that distributivity can be supported from any argumental or non-argumental position, and can yield direct or inverse scope.

Pseudo-Distributivity, on the other hand, is optional. Beghelli argues that distributivity and pseudo-distributivity resort to different syntactic mechanisms. Pseudo-distributivity does not involve DistP. Rather, it resorts to a covert distributive operator, which, syntactically, is similar to "silent floated each". The postnominal *each* moves to a position where is can take the distributor as an antecedent and c-command the distributee. In example (54) below,

(54) Two students read a book each.

the distributor is *two students* and the distributee *a book*. The position to which *each* will move must be a position which can be bound by the antecedent and which must c-command the object. Beghelli argues that *all* is a prototypical pseudo-distributive. Pseudo-distributivity is optional, and can only obtain in inverse scope (that is if the distributee is in the subject position and the distributor in object position)[10].

[10] With respect to *all*, which exhibits a certain degree of variability, Bobaljik (1995) argues that contrary to *each*, *all* is not distributive, but maximal:

(i)a. The reporters each harangued the candidate.

However, Beghelli's approach needs to assume two different types of distributivity. In addition, the distributive reading is triggered by the presence of the quantifier in DistP for distributive quantifiers and in Agr-related positions or ShareP for floated quantifiers, with the extra assumption of a covert distributive operator for non-floated non-distributive quantifiers. We have seen in section 5.1 above that distribution does not seem to be dependent on positions. Although one might object that English has covert quantifier movement, and that the surface position is not crucial, I will propose an alternative which hopefully simplifies the above system in more than one way. But if we consider quantifiers as possible candidates for overt movement, distributivity cannot be the trigger. I will therefore conclude that floating quantifiers, and universal quantifiers in general, do not carry a syntactic [+dist] feature, and that quantifier movement is not triggered by the feature. Therefore, we must dispense with the functional projection labeled DistP. This corroborates the proposal in Baunaz (2002). Note that Surányi (2003) reaches the same conclusion on independent grounds.

Distributivity is thus a semantic property of quantifiers. Junker, citing Choe (1987) proposes that

a) the sorting key for distributivity is semantically plural
b) the distributed share is indefinite

So, unless it is morphologically marked, distributivity is optional.

We might improve on this proposal by adding that if the sorting key is syntactically singular, we automatically get the distributive reading, as the entity denoted by the semantically plural expression is thus divided into its atoms by its lexical properties. This accounts for the obligatory distributivity of *each/chacun* compared to *all/tous*.

The conclusion we have reached so far is that floating quantifiers, not being intrinsically distributive, do not carry a feature [+dist]. Hence, they do not move to positions which license them by virtue of their syntactic feature. This leads us to other questions: what are floating quantifiers? What is their relation to the DP? why do they have scope properties which have lead authors to analyze them as adverbials? And if it is not distributive/pseudo-distributive properties which trigger their distribution, what is it? I will try to answer these questions in the next section.

6. AN ANALYSIS OF FLOATING QUANTIFIERS

6.1. Floating quantifiers are not adverbial

The first question leads us to reconsider some of the proposals. Recall that most analyses take floating quantifiers to be adverbials of some sort. However, some of the properties of floating quantifiers seem to suggest that they are not. Bobaljik (1995) mentions, without developing the question, that many Indo-European languages exhibit agreement in gender, number, etc. between the quantifier and the DP it is linked to. Consider the following:

(55) a. Tou**tes** les étudiantes ont reçu leur diplôme ce jour-là.
All.fem.plur the students have received their diploma that day
'All the students received their diploma on that day.'

---

b. The reporters all harangued the candidate together/in one voice
c. *The reporters each harangued the candidate together/in one voice [p. 197]

With *all*, the sentence is true if and only if it is true of all the members of the group, but need not be true of each one of them, as individual memebers of the group, as it is the case with *each. All* is not incompatible with a distributive reading, but the latter is not obligatory.

b. Les étudiantes ont tou**tes** reçu leur diplôme ce jour-là.
The students have all.fem.plur received their diploma that day

This is not typical of adverbials. Bobaljik timidly suggests that there could be two different forms of quantifiers: one which marks the subject position, and another one which is adverbial. However, in French, floating quantifiers also agree with the object:

(56) Il a tou**tes** voulu les rencontrer.
He has all-fem.plur wanted them to meet
'He wanted to meet them all.'

Bobaljik does mention, citing Kayne, that the adverbial *tout* (termed "completive *tout*") in French also carries agreement:

(57) La tarte a toute été mangée.
the pie has all been eaten
[Kayne 1975:56]

However, we must mention that the agreement on the "completive" *tout* does not exhibit the number marking one observes on regular floating quantifiers. Compare (57) with (58) below:

(58) a. Les chiens seront tout mouillés
the dogs will be all wet
b. Les chiens seront tous mouillés
the dogs will be all.masc.plur wet
(='the dogs will all be wet')

In (58a), the completive *tout* cannot have the number agreement. The version with the number agreement (*tous*) has a different interpretation: it can only mean that *all the dogs will be wet.* Therefore, the adverbial nature of floating *tous* is not clearly attested.

Another argument in favor of the adverbial analysis is that the floating quantifier is not identical to the non-floated one. Bobaljik, as well as Beghelli (1996), propose that they involve two different types of constructions. However, Bobaljik himself gives the examples below, which illustrate interpretations of quantified *all* DPs:

(59) a. The Canadians have voted for Chrétien.
b. The Canadians have all voted for Chrétien.
c. All the Canadians have voted for Chrétien.

He notes that (59a) is true of 51% of the group denoted by the subject DP. Examples (59b) and (59c), on the other hand, are true if and only if the predicate is true of all the members of the group of Canadians. This seems to imply that the truth conditions – if not the exact interpretation – are identical for (59b) and (59c). This is also noted in Doetjes' analysis (see section 4.5). This argument, again, does not seem extremely strong.

Finally, arguments in favor of the adverbial-like nature of floating quantifiers are based on the position in which they appear. First, the floating quantifier does not always sit in a position which corresponds to the actual DP trace (this is Bobaljik's main objection). Besides, the quantifier seems to have detectable scope effects, as was also noticeable from our data above. Junker gives the following examples:

(60) a. ?? Tous les gens découvrirent la grotte l'un après l'autre
b. ?? All the people discovered the cave one after the other.
(61) a. Les gens découvrirent tous la grotte l'un après l'autre.
b. The people all discovered the cave one after the other.

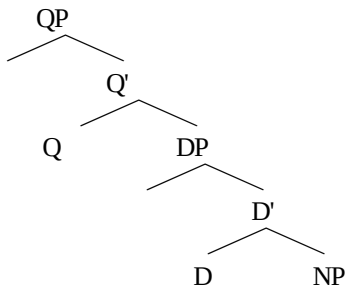
The examples in (60) are marginal, due, as suggested by Junker, to the fact that non-floated quantifiers prefer unique events (with, possibly, distribution over multiple entities), unlike floated quantifiers, which prefer distributing over multiple events. These observations on scope variations indeed raise the question of the position of quantifiers with respect to other elements. However, we must bear in mind that inducing scope variations is the main characteristic of quantifiers. Therefore, the adverbial analysis, again, cannot be deduced from this argument.

We now have the following facts: floating quantifiers do not behave like adverbs; they resemble non-floated quantifiers; they induce scope variations (just like non-floated quantifiers). I will therefore propose an analysis which takes these into account. Although the evidence accumulated is based on different quantifiers, it seems clear that both *all* and *tous,* as well as *each* and *chacun* behave identically in floating quantifier contexts (leaving aside the lexical property of being singular versus plural). I will therefore include all these floating quantifiers in my analysis.

5.2. The analysis

Following Junker (1995), Doetjes (1997), I will assume that there is no difference between floating and non-floating quantifiers. With respect to the DP, they exhibit identical behaviors. The internal structure of quantified DPs will therefore always be identical. Giusti (2001) proposes that QP always selects the DP which contains the nominal element. We therefore have a structure as in (62) below:

(62)



So all quantified DPs come with a quantificational layer. From this point of view, floating quantifiers resemble other quantifiers. However, not all quantifiers can float. In the languages we are considering, there is a very limited range of possibilities. *All* and *tous* can appear without any problem, either floated or not. As for *each* and *chaque*/*chacun*, we observe that only a subclass of the non-floated variants can float. Consider the following:

(63) a. Chaque architecte reçu un prix.
each architect has received a prize
b. * L'architecte a chaque reçu un prix.
the architect has each received a prize

(64) a. Each architect should receive a prize.
b. * The architect should each receive a prize.

In (63) and (64), the non-floated quantifier is construed with a bare singular noun, and floating is ungrammatical. This contrasts with *all* and *tous*, which select a plural nominal with a determiner. Similarly, the versions of *each/chacun* which can float are the ones which take a plural DP:

(65) a. Chacun **des** architecte**s** a reçu un prix.
each of-the architects has received a prize
b. **Les** architecte**s** ont chacun reçu un prix.
the architects have each received a prize
(66) a. Each of the architect**s** should receive a prize.
b. The architect**s** should each receive a prize.

It is not clear, though, whether the difference is a matter of singular versus plural, or a question of NP versus DP. Following Ritter (1991), I will assume that the DP contains a NumP, above NP. It might be the case that only plural features trigger the realization of NumP, singular being a default case. In addition, these plural nouns are definite (see Junker 1995:78). Therefore only plural definite DPs are in fact "full" DPs. [11] Alternatively, as suggested by Junker, the quantifiers in (63a, 64a) do not select a DP, but only a bare NP. In this case, the difference is clearly between selecting a DP versus selecting an NP.

Whatever the solution, it seems quite clear that the notion of "full" DP is crucial for the floating quantifier. I propose that it realizes the ideal configuration for "stranding". Indeed, only a ("full") DP will be allowed to move to a position away from the quantifier. If the QP is constructed as given above, one can envisage a stranding which leaves the Q features where they must be verified and which allows the DP to move to other case/EPP checking positions.

The next question we must address is that of the movement. I have assumed that floated and non-floated quantifiers are identical in structure. Therefore, the surface realization of the floated version must strand the DP away from the quantifier or vice versa. In fact, I will propose that both the DP and the quantifier move.

Overt movement of quantifiers is a much wider phenomenon than has been assumed until recently. For example, research on Icelandic by Svenonius (2000) shows that this language exhibits overt optional Quantifier Movement. Similarly, Hungarian displays unlimited quantifier movement (see e.g. Brody and Szabolcsi 2002). We do not have to assume covert quantifier movement. On the contrary, one should consider the idea that different interpretations correspond to different syntactic positions, in the overt syntax. I will propose that this is indeed the case, both in French and in English.

I will consider the distribution of (floated) quantifiers with respect to other elements in the sentence. The examples in (67) and (68) below illustrate quantifiers in sentences containing several adverbials in French:

(67) a. Chacun des enfants a toujours bien appris ses leçons.
each of-the children has always well learned his lessons
b. * Chacun des enfants a bien toujours appris ses leçons.
each of-the children has well always learned his lessons

[11] On definiteness in the DP, see also Ihsane and Puskas (2001).

(68) a. ? Les enfants ont chacun toujours appris leurs leçons.
the children have each always learned their lessons
b. * Les enfants ont toujours chacun appris leurs leçons.
the children have always each learned their lessons
c. Les enfants ont chacun bien appris leurs leçons.
the children have each well learned their lessons
d. * Les enfants ont bien chacun appris leurs leçons.
the children have well each learned their lessons

(67) are "test" sentences, showing that *toujours* and *bien* appear in a given order. In (68), the two adverbials are treated individually, so as to give a finer grained picture of the relative distributions of adverbials and floated quantifiers. The same procedure applies to *tous* in (69):

(69) a.??/*Les enfants ont tous toujours appris leurs leçons.
the children have all always learned their lessons
b. Les enfants ont toujours tous appris leurs leçons.
the children have always all learned their lessons
c. Les enfants ont tous bien appris leurs leçons.
the children have all well learned their lessons
d.??/*Les enfants ont bien tous appris leurs leçons.
the children have well all learned their lessons

Both *chacun* and *tous* appear higher than the adverb *bien* (Voice, cf Cinque 1999), which is low in Cinque's hierarchy (68c, 69c). We conclude that the floated position cannot be associated with the VP internal subject position. However, to the extent that we can assign fixed positions to these adverbs, we observe that *chacun* and *tous* do occupy different positions, on either side of *toujours* (compare 68a,b with 69a,b). In the light of these facts, Beghelli's proposal to associate floated quantifiers with Agr positions does not seem to be justified. Brody and Szabolcsi propose that there are "low" (=IP-internal) quantifier positions. This seems to be confirmed by the data above. I adopt the proposal and extend it to the languages under investigation here. Bobaljik (1995) also offers indirect evidence for this. One of the objections he raises to an analysis in terms of DP traces converges with Déprez' (1994) et Tellier et Valois' (1993) works. These authors observe that floating quantifiers in French tend to induce weak island effects:

(70) a. Combien est-ce que tu crois que [chacun de ces enfants] enverra de cartes postales à ses parents?
how many do you think that [each of these children] will-send of postcards to his parents
b. * Combien est-ce que tu crois que ces enfants enverront chacun de cartes postales à ses parents?
how many do you think that these children will-send each of postcards to his parents
[Déprez 1994]

In (70b), the quantificational *wh*-phrase *combien* is extracted over the floated quantifier, and the sentence is ungrammatical. This seems to suggest that the position *chacun* occupies blocks

the extraction. I assume it is a scope position to which the quantifier has moved.[12] However, as opposed to Brody and Szabolcsi (2002), I assume that these quantifier positions are not defined in terms of distributivity: there are no DistP projections. The quantified DP gets therefore "split", the DP itself moving to check an EPP feature in the relevant position, the QP then undergoing remnant movement to the relevant quantifier position. Given the relative distribution of quantifiers and adverbs, I propose that this movement is overt movement.

The question of the "high" positions remains to be examined, that is of the cases when the quantifier appears with the subject, as is non-floated quantifiers. We might retain the standard view that this position is AgrSP (or a canonical subject position), to which the quantified DP moves as a whole. On the other hand, languages like Hungarian show that there are quantifier positions in the left periphery, to which the quantifed DP could move. So either the whole DP moves overtly to this higher position, or the Q features undergo covert movement.

Let us now come back to the motivation for quantifier movement. Although the intrinsic properties of quantifiers – as lexical properties –yield distributive and/or ambiguous readings, the surface positions do not suggest that quantifiers move to check a distributive feature. Junker observes that partitive quantifiers have a discursive referent (triggered by the definite DP). In other words, a partitive QP denotes an already identified group. She also observes that whereas the "partitive quantifier" (that is, in my terms, the non-floated version) focuses on the plural individual ("l'individu pluriel"), the "floating quantifier" (the floated version) has "une affinité avec les contextes où les événements multiples" [affinities with multiple event contexts] (1995:83). This can be translated into scope properties. We have also observed that some floating quantifiers support preferably distribution over event interpretations. I propose that this is related to their relative position and scope within the sentence. The trigger for movement itself remains to be identified. I retain the assumption that quantifier movement is feature-driven movement. However, distributivity does not belong to the syntactic triggers for quantifiers. I will tentatively adopt Baunaz '(2002) proposal in terms of +/- référential and +/- specific:

(71)

	référentiel	**non-référentiel**
spécifique	Topics	chacun/chaque
non-spécifique	Focus	indéfinis, tous les NP

The exact properties of these elements need to be examined. Note that Baunaz' classification predicts that *chacun* and *tous*, having different features, will appear in different positions, a prediction which is verified by the distribution of these quantifiers with respect to adverbs.

[12] Bobaljik also refers to the properties noted by Deprez 1994 (who cites Szabolcsi 1992), showing that some adverbs induce weak island effects::

(i) *Comment n'as tu jamais résolu de problèmes?
how have you never solved problems

However, the 'some' is crucial here. *Jamais* is a negative element, and recent work on negation has proposed that negative elements are quantificational, belonging, in some languages at least, to the class of universal quantifiers (see e.g. Giannakidou 2000).

7. CONCLUSION

The approach to floating quantifiers initiated here has led us to a certain number of propositions. First, a close scrutiny of floating quantifiers has confirmed that distributivity is semantically derived, and cannot be an intrinsic syntactic feature of quantifiers. Second, both semantic and syntactic evidence have led us to the conclusion that floated and non-floated versions of the "floating" quantifiers are surface variants of the same element. Moreover, this element is a regular quantifier, the possibility of being floated depending on the complement it selects. Third, we have proposed that the positions to which the quantifiers move are neither A-positions, nor adverbial positions. Rather, they are IP-internal quantifier positions, which trigger the relevant scope properties.

Several questions remain to be examined. One important point is that of the role of intonation. We saw that different intonations trigger specific readings which render distributive contexts uninterpretable. If distributivity is semantic, what is the role of intonation? These intonation problems are also mentioned in a footnote in Bobaljik:

(72) a. The linguists cleaned their apartments all on the same day.

Bobaljik signals that in this case, *all* seems to receive some emphatic stress. The observation can be extended to French:

(72) b. Les linguistes ont nettoyé leur(s) appartement(s) 'tous le même jour.

Obviously, a closer look at the relation between scope properties and intonation might shed yet another light on the problem of floating quantifiers. This is left for (near) future research.

REFERENCES

Baunaz, L. (2002) On the non-ambiguity of Scope Relations in French. Mémoire de DEA, Université de Genève.

Beghelli, F. (1995) The Phrase-structure of Quantifier Scope. PhD dissertation, University of California, Los Angeles.

Beghelli, F. (1997)"The syntax of distributivity and pair-list reading", in A. Szabolcsi (ed.) *Ways of Scope Taking,* Kluwer,Dordrecht, 349-408.

Beghelli, F. & T. Stowell (1997) “Distributiviy and Negation: the Syntax of *each* and *every*”, in A. Szabolcsi (ed) *Ways of Scope Taking,* Kluwer, Dordrecht, 71-107.

Bobaljik, J. (1995) Morphosyntax: the syntax of verbal inflection. PhD dissertation, MIT.

Brody, M. & A. Szabolcsi (2002) “Overt scope in Hungarian”, ms, UCL-NYU.

Cinque, G. (1999) *Adverbs and Functional Heads,*: Oxford University Press, Oxford/New York.

Choe, J.W. (1987) Anti-Quantifiers and a theory of Distributivity, PhD dissertation, University of Massachusetts.

Deprez, V. (1994) "The weak island effect of floating quantifiers", in E. Benedicto & J. Runner (eds) *Functional Projections*, [University of Massachusetts Occasional Papers 17], University of Massachusetts, Amherst.

Doetjes, J. (1997) *Quantifiers and Selection,* Rijksuniversiteit Utrecht, HIL dissertations.

Giannakidou, Annastasia (2000) "Negative...Concord?", *Natural Language and Linguistic Theory* 18.3, 457-523.

Gil, D. (1995) "Universal quantifiers and distributivity", in E. Bach, E. Jelinek, A. Kratzer & B. Partee (eds) *Quantification in Natural Languages*, Kluwer, Dordrecht, 321-362.

Giusti, G. (2001) "On the DP". Talk presented at the Séminaire de recherche, Université de Genève, Novembrer 2001.

Ihsane T. & G. Puskás (2001) "Specific is not Definite, *Generative Grammar in Geneva* 2.

Junker, O. (1995) *Syntaxe et sémantique des quantifeurs flottants tous et chacun*. Droz, Genève.

Kayne, R. (1975) *French Syntax: the Transformational Cycle*, MIT Press. Cambridge, Mass.

Maling, J. (1976) "Notes on quantifer post-posing", *Linguistic Inquiry* 7, 708-718.

Ritter, E. (1991) "Two Functional categories in Noun Phrases: Evidence from Modern Hebrew", in S. Rothstein (ed.), *Perspectives on Phrase Structure* [Syntax and Semantics 26], Academic Press, New York, 37-62.

Sportiche, D. (1988) "A theory of floating quantifiers and its corollaries for constituent structure", *Linguistic Inquiry* 19, 425-450.

Surányi, B. (2003) *Multiple Operator Movements in Hungarian*, Rijksuniversiteit Utrecht, LOT dissertations 72.

Svenonius, P. (2000) "Quantifier Movement in Icelandic", in P. Svenonius (ed.) *The Derivation of VO and OV,* John Benjamins, Amsterdam and Philadelphia.

Tellier, C. & D. Valois (1993) "Binominal *chacun* and pseudo-opacity", *Linguistic Inquiry* 24, 575-583.