

A CLASS OF 'LITE' ADVERBS IN FRENCH*

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0. *Introduction*

It is well known that Romance languages have certain weak or clitic adverbs.¹ In this paper, we examine the syntactic properties of a subclass of scalar (*beaucoup*, 'much') and manner (*bien*, 'well') adverbs in French, which seems to make them good candidates for being weak forms in the sense of Cardinaletti & Starke (1994) (by contrast with *-ment* derived strong forms). We show that their ability to be modified or conjoined however casts doubts on such an analysis. After discussing the possible relevance of Cinque's (1999) structural hierarchy, we propose an analysis based on a lite vs non-lite distinction. We formalize our proposal with a feature WEIGHT, which is part of the syntactic description of lexical items as well as of phrases, and is taken into account by constraints on word order and extraction.

1. *A class of French adverbs*

Degree, quantity and (verbal) manner adverbs in French (which we will call Scalar) are known to have the two following syntactic properties: they cannot escape from the VP domain and be in Sentence initial position (1), and they can premodify adjectives or adverbs (2).²

- (1)a. Paul travaille trop
Paul works too-much
- b. * Trop Paul travaille
Too-much Paul works
- (2) trop gentil / trop gentiment

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¹ See for example the clitic forms *ben* or *pur* in Italian or *mai*, *si*, *tot*, *cam* and *prea* (occurring between the pronominal clitics and the V in Romanian).

² Throughout the paper, we provide glosses rather than translations.

'too kind, too kindly'

It has also been observed that they often come in quasi synonymous pairs with *-ment* adverbs: *trop / excessivement* ('too much'), *assez/ suffisamment* ('enough'), *beaucoup / énormément* ('a lot'), *peu / modérément* ('little'), *bien / correctement* ('well'), *plus / davantage* ('more') etc. In each pair, the first adverb is monomorphemic (from the synchronous point of view)³ or 'simplex', and the second derived (with the suffix *-ment*) or complex. Contrasting their properties will help us understand this enduring lexical redundancy.

The simplex scalar adverbs have the following properties, which contrast with those of derived (or complex) scalar adverbs:

(i) If bare, and normally stressed, they occur before the complements (see Blinkenberg 1928, Kayne 1975, Molinier 1990, Kampers 1999):⁴

- (3) a. Paul va trop au cinéma / * au cinéma trop
 Paul goes too-much to the movies / to the movies too-much
 b. Paul va excessivement au cinéma/ au cinéma excessivement
 Paul goes excessively to the movies / to the movies excessively
 (4) a. Marie comprend bien le cours/ ?? le cours bien
 M. understands well the lesson / the lesson well
 b. Marie comprend correctement le cours/ le cours correctement
 M. understands correctly the lesson / the lesson correctly

(ii) However, if they are modified, conjoined or bear a focussing stress, they can occur before or after the complements (Blinkenberg 1928):

- (5)a. Paul va [vraiment trop] au cinéma / au cinéma [vraiment trop]
 P. goes really too-much to the movies / to the movies really too-much
 b. Marie comprend [très bien] le cours / le cours [très bien]
 M. understands very well the lesson / the lesson very well

(iii) They cannot be extracted, that is, they cannot be clefted:

- (6) a. *C'est trop que Paul va au cinéma
 It is too-much that Paul goes to the movies
 b. C'est excessivement que P. va au cinéma

³ We analyze as monomorphemic certain adverbs that are historically derived: *vraiment*, *extrêmement*, *relativement* (they do not have the 'in an adj manner' paraphrase anymore).

⁴ They can only follow *tout* or *ça*, which we analyze as 'lite' complements (see Abeillé & Godard 1998):

Paul fait tout bien / ça bien 'Paul does everything well / this well'

- It is excessively that Paul goes to the movies
- c. * C'est bien que Marie comprend le cours
It is well that M. understands the lesson
- d. C'est correctement que Marie comprend le cours
It is correctly that Marie understands the lesson

(iv) When they modify an adjective which can be prenominal, the modified adjective can be prenominal, which is not the case when the adjective is modified by a *-ment* adverb (Grevisse 1988, Guimier 1996, Abeillé & Godard 1999 *contra* Combettes & Tomassone 1988):

- (7) a. Une décision trop habile/ Une trop habile décision
A decision too clever / A too clever decision
- b. Une décision excessivement habile / *Une excessivement habile décision
A decision excessively clever / An excessively clever decision
- c. Une bien belle fille / Une fille bien belle
A really beautiful girl / A girl really beautiful
- d. Une fille divinement belle / ?? Une divinement belle fille
A divinely beautiful girl / A girl divinely beautiful

(v) When they modify an infinitival V, they can occur on its left (as well as on its right), which is not always the case for *-ment* adverbs, and may not be separated from the V by a higher *-ment* adverb (9):⁵

- (8) a. On lui reprochait de (trop) aller (trop) au cinéma
They him blamed for (too-much) going (too-much) to the movies
'They blamed him for going to the movies too much'
- b. * On lui reprochait d'excessivement aller au cinéma
They him blamed for excessively going to the movies
- c. Elle se réjouit de (bien) parler (bien) le roumain
She rejoices over (well) talking (well) Romanian
'She is happy that she can talk Romanian well'
- d. ?? Elle se réjouit de correctement parler le roumain
She rejoices over correctly talking Romanian
- (9) a. On lui reprochait de vraisemblablement beaucoup aller au cinéma
They him blamed for likely a lot going to the movies
'They blamed him for going likely a lot to the movies'
- b. * On lui reprochait de beaucoup vraisemblablement aller au cinéma
They blamed him for a lot likely going to the movies

⁵ (9b) is acceptable if the adverb is parenthetical.

The specific properties of simplex scalar adverbs cannot be explained by prosody or morphology only since some of them are polysyllabic (*beaucoup*, *assez*) and there are other monomorphemic adverbs which are not so restricted: the locative *ici* or *là*, the temporal *hier*, for example, can scramble with complements or be extracted:

- (10)a. Il a rangé le livre là / ici / hier
'He filed the book there / here / yesterday'
b. C'est ici / là / hier qu'il a rangé le livre
'It is here / there / yesterday that he has filed the book'

2. *Two possible approaches and their problems*

We examine two recent proposals which might be relevant, the weak/strong distinction of Cardinaletti and Starke (1994), and the higher/ lower classes of adverbs of Cinque (1999).

While Cardinaletti and Starke mainly examine nominals, they suggest that the weak vs strong distinction is also relevant for adverbs. (Non clitic) weak constituents are similar to strong ones in bearing word stress, but also differ from them in that they can only occur in specific 'derived' position, cannot be conjoined nor modified.

Like weak forms, our simplex adverbs cannot be extracted, and the positions where they occur (to the left of the Vinf, before the complements, or to the left of a prenominal adjective) might be said to be 'specific'. However, they fail the other two tests:

(i) They can be modified by different adverbs (11). When the modifier is also a simplex scalar adverb, the modified adverb can still modify a prenominal adjective (12a,b), and occur to the left of the Vinf (12c,d):

- (11)a. Il mange [beaucoup trop] / [dix fois trop]
'He eats much too much / ten times too much'
b. Il travaille [bien moins] / [trois fois moins]
'He works much less / three times less'
(12)a. Une [beaucoup trop] importante participation
A much too important turn out
b. Une [bien moins] agréable aventure que prévu
'A much less pleasant adventure than foreseen'
c. Il essaie de [bien moins] manger ces derniers temps
He tries to much less eat these days
d. Il souffre de [beaucoup trop] dormir
He suffers from much too much sleep(ing)

When they are modified by expressions of a different type, the modified adverb behaves like an ordinary adverb, may occur after the complements (14a) and fails to occur to the left of the prenominal adjective (13) and to the left of Vinf (14b):

- (13)a. Une participation [dix fois trop] importante
'A turn out ten times too big'
b. *Une [dix fois trop] importante participation
A ten times too big turn out
- (14)a. Il va au cinéma [dix fois trop]
He goes to the movies ten times too-much
b. ?? Il craignait de [dix fois trop] manger
He was afraid of eat(ing) ten times too-much

(ii) They can be conjoined with adverbs (15). When they are conjoined with adverbs of the same type, such coordinations can modify a prenominal adjective (16a,b), as well as occur to the left of the Vinf (16c,d):

- (15)a. Il travaille toujours [trop ou trop peu]
He works always too-much or too little
b. Ils participent [plus ou moins] aux séminaires
They attend more or less the seminars
- (16)a. Une [trop ou trop peu] habile décision
A too or not enough clever decision
b. De [plus ou moins] fortes précipitations
(of) more or less heavy rains
c. On lui reprochait sans cesse de [trop ou trop peu] travailler
They him blamed always for too-much or too little work(ing)
'They always blamed him for working too much or too little'
b. Ils essaient de [plus ou moins] participer aux séminaires
They try to more or less attend the seminars

When they are conjoined with adverbs of a different type, such coordinations behave like complex adverbs, since they cannot modify a prenominal adjective (17b), cannot premodify a Vinf (17d) and can follow the complements (17c):

- (17)a. Ces idées [trop ou insuffisamment] nouvelles
These ideas too or not enough new
b. * Ces [trop ou insuffisamment] nouvelles idées
These too or not enough new ideas
'These ideas too new or not new enough'

- c. Ils participent aux séminaires [trop ou insuffisamment]
They attend the seminars too-much or not enough
- d. * Ils craignent de [trop ou insuffisamment] participer aux séminaires
They are afraid of too-much or not-enough attend(ing) the seminars

If the inability to be conjoined or modified is part of the definition of weak constituents, it is clear that our simplex adverbs are not weak.

Another possibility is to use Cinque's (1999) hierarchy of adverbs. Leaving aside 'circumstantial adverbs' of time, location, and manner, which exhibit a certain ordering freedom, Cinque divides more constrained adverbs into two classes, the higher and the lower adverbs. Analyzing adverbs as functional heads, he proposes that lower adverbs are located lower in the tree than higher ones, and (roughly) separated from them by the (moved) V. However this hierarchy cannot accommodate the properties illustrated above.

In this classification, our simplex adverbs are lower adverbs, which comprises all adverbs failing to occur at the beginning of S, and ordered before the complements. But they can also occur to the left of the V (an infinitival).⁶ When they do, they cannot have wide scope over a conjunction of VP's (Abeillé & Godard 1997). Thus, (18a) does not convey that the addressee must know the lesson well. This is totally unexpected if they are heads (a functional projection) taking the VP as complement: heads are expected to be able to take simple as well as conjoined complements in a general way.

- (18)a. Tu dois bien apprendre ce cours et le savoir pour demain
'You must learn this lesson well and know it for tomorrow'
- b. Paul travaillera vraisemblablement beaucoup cet été
'Paul will probably work a lot this summer'

On the other hand, the property follows if these adverbs are adjoined to the lexical V rather than the VPinf.⁷ But the adjunct analysis does not fit well in Cinque's (1999) system. If they are always adjuncts to the lexical V and unordered with respect to it (at least with infinitivals), the fact that they can be

⁶ Note also that the hypothesis that adverbs are strictly ordered functional heads relies on the availability of movement from the head position of the VP to a higher position, since one finds higher adverbs after the V (18b) (which is supposed to have moved), and lower adverbs can occur before or after the Vinf (8a,c).

⁷ Similarly, the simplex scalar adverbs do not have wide scope over a coordination of APs (contrary to derived adverbs):

- (i) une fille [trop belle] et contente d'elle / * trop [belle et contente d'elle]
 - (ii) une fille [excessivement belle] et contente d'elle / excessivement [belle et contente d'elle]
- (i) is not ambiguous and can only mean that the girl is too beautiful on one hand and happy about herself on the other hand, while (ii) is ambiguous between narrow and wide scope of the adverb.

separated from the V by a higher adverb (such as *vraisemblablement* in (18b)) is a problem: the latter must also be analyzed as adjuncts to the lexical V rather than functional heads. Adverbs could have two analyses, adjuncts to the left and functional heads to the right of the V, but this goes counter to Cinque's motivation for the hierarchy of functional projections.

Even when they occur in the position expected of lower adverbs, after the V and before the complements, they raise a difficulty. Remember that they acquire an ordering freedom when they are conjoined, modified or stressed (see (5)). To account for these data, one must appeal to movement of the complements or the adverbs. But movement is unmotivated: conjunction or modification of adverbs of the same type cannot induce a type change; as for the complements, how would they know whether the adverb is conjoined or modified? A similar problem arises with the influence of the adverb type on the pre/postnominal position of the adjective. In Cinque's (1994) analysis of the NP, the relative order of the N and the adjective depends on movement of the head N, whose landing site is function of the semantic type of the A. It is difficult to see how these degree/intensity adverbs could change the semantic type of the A, specially when quasi-synonymous adverbs (the lower adverb and its *-ment* counterpart) have a different impact (see (7)).

To sum up, Cinque's (1999) structural approach encounters empirical difficulties with the positional and scopal properties of our scalar adverbs in the VP, and is clearly inadequate for dealing with adjectival modification in the NP.

We can also check that the syntactic contrast between our constrained simplex adverbs and the synonymous derived ones does not come from a categorial or functional difference. One could say, for instance, that the simplex adverbs are degree categories, while the derived ones are true adverbs. But this does not explain why both types can be conjoined (17a,c) and why modification or coordination changes degree words into adverbs (5). Similar data run counter to a functional explanation (according to which the simplex adverbs would be in specifier position while the derived ones would be in adjunct or complement position).

3. *The theory of liteness*

In this section, we show how the weight-based theory of word-order, elaborated in Abeillé & Godard (1997, 1999, 2000) explains the behavior of scalar adverbs. In this approach, the traditional notion of weight (used for postponing constituents such as sentential complements) is revised as having three possible values: *lite* (for words or phrases specified as such)⁸, *medium* for words not specified as *lite* and most phrases, *heavy* for the well-known long or complex phrases. Weight is a factor which interacts with other factors (such as constraints on categories or grammatical functions) to order lighter elements closer to the head and heavier elements further.⁹

The cross-categorical distinction between *lite* and non-*lite* constituents characterizes both words and phrases, and plays a role in combinatoric possibilities, word order and extraction. The contrasting properties are the following:

- only non-*lite* constituents can be extracted,
- only non-*lite* constituents can scramble,
- only *lite* constituents can premodify a lexical head,
- *lite* words belong to certain morphological and semantic classes,
- only (certain) phrases made up of *lite* elements can also be *lite*.

In the same way as the heaviness constraint maximizes the distance between heavy phrases and the head, the liteness constraint minimizes the distance between *lite* constituents and the head.

As an example, we examine bare common N as complements of certain verbs in French: they must precede the phrasal complements, whereas proper names are not so constrained (19). When they are specified, conjoined or modified, they have the same scrambling possibilities as other NPs (20).¹⁰

- (19)a. Ils rendaient hommage au Président/ * au Président hommage
'They paid tribute to the President'
- b. La course a donné soif à Paul/ * à Paul soif
The running has given thirst to Paul/ to Paul thirst
'The running made Paul thirsty'
- c. Ils rendirent Marie au Président / au Président Marie
'They gave Marie back to the President'
- (20)a. Ils rendaient [un hommage appuyé] au Président / au Président
[un hommage appuyé]

⁸ We use the term '*lite*' instead of '*light*' in order to avoid confusion with semantic lightness (such as light verbs).

⁹ We leave open here the question whether weight-based constraints only order elements not ordered otherwise or may overrule other word order constraints.

¹⁰ The order Object + Indirect Object is sometimes more natural without context, for reasons of focus, which we leave aside.

- 'They paid an insistent tribute to the President'
- b. La course a donné [à la fois faim et soif] à Paul / à Paul
m et soif]
- 'The running made Paul both hungry and thirsty'
- c. La course a donné [vraiment très soif] à Paul / à Paul
[vraiment très soif]
- 'The running made Paul really very thirsty'

Bare common nouns in French are thus lexically specified as lite, while proper names are medium-weight, and NPs medium-weight or heavy like other phrases.

Summarizing, lite constituents precede the non-lite complements in the VP while non-lite constituents can scramble (unless they are heavy and thus postposed). Conjunctions and modifications involving lite constituents can be lite or non-lite. Lexically, adverbs are non-lite by default: the simplex scalar adverbs are lite, while all derived *-ment* adverbs are non-lite. Hence the ordering constraints on simplex scalar adverbs.¹¹

The distinction between the two classes of adverbs also shows up in phrases with the adverb modifying a lexical V or A. Only lite adverbs (or lite AdvPs) can modify a lexical (infinitival) V on its left, and only lite adverbs (or lite AdvPs) can modify a prenominal adjective. Coordination of lite adverbs or modification of a lite adverb by a lite adverb can be lite (see (12), (16)). However, they can also occur after the complements in the VP (see (5)). The data follow if such phrases can be either lite or non-lite. On the other hand, non-lite *-ment* adverbs either cannot occur to the left of the V (see (8b,d)), or, if they do, they are adjoined to the VP rather than to the lexical V.¹² Finally, a lite adverb modified by a non-lite one is non-lite; accordingly, it cannot left-adjoin to the lexical A or V, as illustrated in (13-14).

In the NP, we analyze the A as adjoined to the N, to the left for lite adjectives, and to the right for non-lite ones (Abeillé & Godard 1999, 2000). As for adverbs, only a few (monomorphemic) adjectives are lexically specified as lite, those which are clearly perceived as complex are non-lite, the

¹¹ Other monomorphemic adverbs such as negative and quantifier ones (*pas* 'not', *plus* 'no more', *jamais* 'never', *toujours* 'always', *encore* 'still') are also specified as lite since they have the same properties in the VP. They differ from scalar adverbs in that they premodify AP or VPinf (rather than lexical As or Vs), since they can have wide scope over coordinations of APs or VPs, and cannot occur with prenominal adjectives.

¹² They do have wide scope over a conjunction of VP's.

(i) Il en profiterait pour inévitablement sécher les cours et aller au cinéma
'He would take advantage of things to naturally play truand and go to the movies'

rest being underspecified.¹³ In addition, lite adjectives are semantically restricted. As with adverbs, the modification of a lite adjective by a lite adverb can be lite (or non-lite), while the modification of an adjective by a non-lite adverb is obligatorily non-lite. Accordingly, the (lite) A modified by a lite adverb can occur to the left of the N (see (7a,c)), while the A modified by a non-lite adverb can only occur to the right of the N (see (7b,d)). In addition, a lite A modified by a conjunction of lite adverbs is lite or non-lite, as expected, since such APs can be prenominal (see (12) and (16a,b)).¹⁴

Finally, we assume that only non-lite constituents can be extracted. This is not only justified by the behavior of adverbs (6), but also of nouns. Hence the contrast in (22) between lite nouns (lite) and non-lite proper names or NPs:

- (22)a. * C'est hommage qu'ils ont rendu au Président
'It is tribute that they paid to the President'
b. C'est [un hommage appuyé] qu'ils ont rendu au Président
'It is a strong tribute that they paid to the President'
c. C'est Marie qu'ils ont rendue au Président
'It is Marie that they gave back to the President'

4. *A Formal representation of the analysis*

We now embed our analysis in the framework of Head-driven Phrase Structure Grammar (Pollard & Sag 1994). To put it briefly, an HPSG grammar is surface-based (it does not condone movement), and espouses strong lexicalism (syntactic rules do not have access to word parts). Formally, there is a domain of typed linguistic objects, where a type can inherit from several, compatible types, and is associated with an appropriate feature structure.

To deal with our data, we use a feature WEIGHT, included in syntactic descriptions of words and phrases. It can have three values: lite, middle-weight and heavy. Leaving aside heaviness phenomena here, we will speak of lite and non-lite constituents, where non-lite means 'non-lite and non-heavy'. Lexical items are specified as lite, as non-lite or left underspecified, in which case the lexical item description says nothing (no lexical item can be heavy). Monomorphemic scalar adverbs are lexically specified as lite and the derived *-ment* adverbs as non-lite.

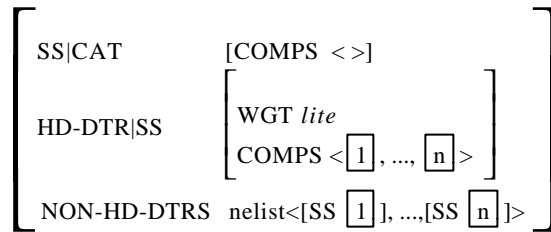
We also use three phrasal types: one for the VP, one for the combination of the lexical V and the adverb or of the lexical N and the

¹³ Adjectives which can occur both to the left and to the right of the N with the same meaning are lexically unspecified, and get their weight from the context.

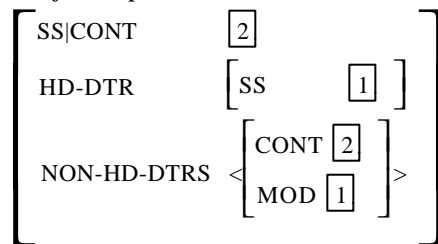
¹⁴ The distinction between lite and non-lite phrases cannot be reduced to a distinction between left and right branching structures, proposed in Alexiadou (1997). It may well be that all right branching phrases (with complements or posthead adjuncts) are non-lite but not all left-branching ones are lite (see e.g. *excessivement habile* in (7) and also (13)-(14)).

adjective, and one for coordinated phrases. Assuming a flat structural representation for the French VP, with adverbials analyzed as complements at the same level,¹⁵ we use the standard head-complements-phrase of Pollard & Sag (1994); this licenses the VP, and also the N-bar. It has a lite head daughter (the N or the V, possibly coordinated with or modified by a lite constituent), waiting for its complements (non-head daughters). The second phrase is the (binary) head-adjunct-phrase of Pollard & Sag (1994). Adjuncts have a feature MOD whose value is identified with the synsem (SS, syntactic and semantic information) of the constituent they modify (the head).¹⁶

(23) *Head-complements-phrase* →



(24) *Head-adjunct-phrase* →



The last phrasal type we need is for coordination, which we assume is a non-headed phrase (as in Pollard & Sag 1994).

We can now turn to phrasal weight. All head-nexus-phrases (phrases which are neither head-adjunct-phrases nor coordinated-phrases) are non-lite. For the other two types, we propose the following constraints:

¹⁵ As in Abeillé & Godard (1997), (2000) and Bouma et al. (2000), we analyze postverbal adverbs as complements, in order to account for their scrambling with complements as well as for their extraction behavior. Technically, all verbs in French undergo an optional lexical rule adding an unspecified number of adverbs on their COMPS list. When they are adjuncts, adverbs are constrained (by their MOD feature value) to modify only certain categories (Vinf for lite scalar adverbs, S or VP for temporal or locative ones).

¹⁶ 'nelist' means 'non-empty-list', while 'list' is not specified as empty or non-empty. The elements within '<...>' form a list, and a list (X) is a list made of elements which all have the property X. '∨' notes the logical disjunction, 'O' the shuffling of lists (an operation which takes two lists and gives a list which respects the ordering of each argument list), and 'F|F' the path that goes in a feature structure to a certain feature value. 'U' notes unification.

$$(25)a. \left[\begin{array}{l} \textit{head-adj-ph} \\ \text{HEAD-DTR} \quad [\text{WGT } \boxed{1}] \\ \text{NON-HD-DTRS} \quad <[\text{WGT } \boxed{2}]> \end{array} \right] \rightarrow [\text{WEIGHT} (\boxed{1} \cup \boxed{2}) \Delta \textit{non-lite}]$$

$$b. \left[\begin{array}{l} \textit{coord-ph} \\ \text{NON-HD-DTRS list}([\text{WGT } \boxed{1} \cup \boxed{2}]) \end{array} \right] \rightarrow [\text{WEIGHT} (\boxed{1} \cup \boxed{2}) \Delta \textit{non-lite}]$$

According to (25a), the weight of head-adjunct-phrases is the unification of the values of the daughters, or it is non-lite. Since the weight values can only unify if they are compatible, the phrase can only be lite if both daughters are lite (or unspecified); otherwise, it is non-lite (if both daughters are non-lite, the unification gives non-lite; if one is lite and the other non-lite, union fails, and the only possibility is non-lite). A coordinated-phrase is a list of constituents whose weight is the unification of two values or is non-lite, and the constraint works in the same way as for (25a).

With these weight specifications, we can now formalize the linearization constraints mentioned above, starting with the VP domain.

(26) Ordering constraints on Head-Complements-phrases

- (i) Head < X
- (ii) [lite] < [non-lite, ADV -]
- (iii) [lite, ADV +] < [lite, ADV -]

The first constraint says that the head comes first. The second one orders lite complements before non-lite ones, allowing non-lite adverbials (marked as [ADV +]) to escape from the constraint. Although lite adverbs and nouns must precede non-lite argument NP's and PP's, they can be preceded by a non-lite adverb as in (18b). In fact, since such adverbs are (syntactically) unconstrained, there is no rule needed for them.

It is characteristic of lite constituents that they are ordered among themselves. For example, the lite adverb *beaucoup* must precede the lite N *hommage*. This is ensured by the third constraint.

- (27)a. Il rendait [beaucoup] [hommage] au Président
 He paid a lot of tribute to the President
- b. * Il rendait [hommage] [beaucoup] au Président

We illustrate our proposal for the VP with the linearizations in (28) all meaning 'goes usually too much to the movies'. The only ungrammatical order

is when the lite adverb *trop* follows the non-lite NP *les cinémas*, violating (26ii).

(28)

a.	fréquente	trop	les cinémas	habituellement
	H[lite]	[lite, ADV+]	[non-lite, ADV-]	[non-lite, ADV+]
b. *	fréquente	les cinémas	trop	habituellement
	H[lite]	[non-lite, ADV-]	[lite, ADV+]	[non-lite, ADV+]
c.	fréquente	habituellement	trop	les cinémas
	H[lite]	[non-lite, ADV+]	[lite, ADV+]	[non-lite, ADV-]
d.	fréquente	les cinémas	vraiment trop	
	H[lite]	[non-lite, ADV-]	[non-lite, ADV+]	

Turning to head-adjunct-phrases, *vraiment trop* is made of two lite constituents, the head *trop*, and the adjunct *vraiment*. According to (25b), such a phrase is, out of context, either lite or non-lite. In (28d), since it follows the non-lite NP, it is constrained to be non-lite. More examples are the adjunction of adverbs to adjectives, and adjectives to N. The ordering of the two daughters is given in (29):

(29) Ordering constraints on Head-adjunct-phrases

- (i) Adjunct [lite] < Head
- (ii) Head [lite] < Adjunct [non-lite]

The first constraint orders a lite adjunct before the head. Thus, the adjuncts *vraiment* and *moins* precede the head in [*vraiment trop*] and [*moins travailler*], respectively. The second constraint says that a lite head (of any category) must precede a non-lite adjunct. Consider the head-adjunct phrases in (30). The phrase *trop habile*, being made up of an unspecified head and a lite adjunct is, out of context, lite or non-lite (see (25a)). Following (29), it is lite on the left of the N, and non-lite on the right. On the other hand, the phrase *excessivement habile* can only be non-lite, because modification by a non-lite adverb gives a non-lite phrase (25a). The ordering constraints (29) force this adjunct to occur on the right of the N.

(30)

a.	une	trop habile	décision
		ADJ[lite]	Head[lite]
b.	une	décision	trop habile
		Head[lite]	ADJ[non-lite]
c. *	une	excessivement habile	décision
		ADJ[non-lite]	Head[lite]
d.	une	décision	excessivement habile

		Head[N, lite]	ADJ [non-lite]
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There remains to give the constraint linking liteness and extraction. In the extraction analysis developed in Sag (1997), synsems are divided into different subtypes. The synsem type for extracted elements is a gap, as opposed to canonical synsems which are realized locally. The following implicational constraint on gap synsems forces them to be non-lite, in effect excluding the extraction of all lite constituents:

(31) *gap-synsem* --> [WEIGHT *non-lite*]

5. *Conclusion*

We have presented a cluster of properties exhibited by monomorphemic degree and (verbal) manner adverbs in French, and contrasted them with those of derived or complex adverbs of the same semantic class. Since the contrast cannot be attributed to a categorial, structural or functional difference, we have proposed an account in terms of lexical weight, the first type of adverbs being 'lighter' than the others. Their alleviated weight prevents them from scrambling with complements, or being extracted, and enables them to occur in a restricted preverbal or preadjectival position. But they are not weak adverbs, in the sense of Cardinaletti and Starke (1994), since they can be coordinated or modified in the same position. As part of a Weight-based theory of word order, the lite versus non-lite distinction is relevant both for words and phrases. Far from being arbitrary, lexical liteness can be deduced from the combination of two different properties: monomorphemicity and semantic type, while phrasal liteness (for adverbial phrases) is typical of coordination among lite elements, or modification of a lite head by a lite element. The same distinction extends to adverbs of the same semantic class in other Romance languages, and its validity should be extended to other languages as well, such as Korean or Greek (see the data in Sells 1994, and Alexiadou 1997, respectively).

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