A SEMANTIC ANALYSIS OF LOCATIVE EXPRESSIONS: THE PROBLEM OF INTRANSITIVITY IN PREPOSITIONS

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This paper consists of a critical review of how spatial prepositions and adverbial particles have been treated in the literature. Thus, after a review of the description of locative expressions by traditional grammars, some of the main and most recent ideas related to the semantic analysis of spatial prepositions and adverbs are put forward. As a result of the data gathered, and departing from a functional paradigm, a new classification of such items is proposed at the end of this work. Besides, some innovative contributions to the literature are added, in the line of functional grammars. Finally, a definition of the most important concepts related to prepositions and adverbs of space is provided, and clear boundaries that set the main differences between prepositions and adverbs of space are established.

1. INTRODUCTION

This paper deals with the categorization of locative expressions, chiefly prepositions. In recent years, there has emerged some controversy with respect to their position in grammar. This work tries to solve the controversy by establishing a middle point between two existing tendencies: the one adopted by traditional grammars, such as Quirk et al. (1985), and an innovative view, proposed by Huddleston and Pollum (2002) among others. The traditional view holds that prepositional phrases (henceforth PPs) are always composed of a preposition followed by a noun phrase (hereafter NP) and that adverbial phrases (AdvPs) either head any other type of phrase or appear alone. The innovative view holds that locational adverbs do not exist, but that all locative expressions should be categorized as prepositions. In between these two positions, I consider that locative expressions, both adverbs and prepositions, are essential categories for the grammatical

organization of any language, but that they need to be re-defined. In this sense, I contend that the main distinctive feature of these locative expressions is that prepositions link a phrase to the clause. Such phrase needs not be an NP, but it does have to be referential. By contrast, adverbs predicate something about the clause. Thus, their complement, if any, has to be predicative. At this point, the distinction between reference and predication, on which functional grammars such as Dik's (1997 a/b) Functional Grammar are based, is central to the hypothesis defended here. In the theory of Functional Grammar terms function as arguments of predicates, and they *refer* to entities of the external world. Predicates, on the other hand, point out properties or relations of entities, that is, they *predicate* something of such entities. For example, in the sentence "Mary is tall", *Mary* is a term, since it refers to an entity in the external world, a female human being in this case. *Tall* is here a predicate, because it is a property of that entity.

Huddleston and Pollum (2002: 600) contend that there is no reason to bar the allowance of a preposition to appear without complements. Thus, for them, words such as *here* and *there* are prepositions that never take complements, and they are consequently called *intransitive prepositions*. Even more, Huddleston and Pollum (2002) take the view that adverbs are never spatial or temporal, but that the two dimensions of space and time belong to the category of prepositions. This implies that the subset of traditional adverbs identified in Quirk *et al.* (1985) as prepositional adverbs[1], which is given below, is no longer applicable. Thus, words such as *aboard* or *outside* will just belong to the category of prepositions:

(1)
a. Location and direction adverbs
aboard, about, above, abroad, across, ahead, aloft, alongside, anywhere, around, ashore, astern, away, back, behind, below, beneath, between, beyond, down, downhill, downstairs, downstream, downwind, east, eastward(s), elsewhere, everywhere, far, here, hereabouts, home, in, indoors, inland, inshore, inside, locally, near, nearby, north, nowhere, off,

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1 This list is not, however, complete. For instance, adverbs such as *against*, *apart*, *close*, *everyplace*, *round*, *throughout* or *forth*, identified by McArthur (1981), also belong to this semantic domain. For our purposes here Quirk et *al*.'s (1985) list is representative enough of spatial words.

offshore, on, opposite, out, outdoors, outside, overboard, overhead, overland, overseas, somewhere, south, there, thereabouts, though, under, underfoot, underground, underneath, up, uphill, upstairs, upstream

b. Direction adverbs
after, along, aside, before, by, downward(s), forward(s), inward(s), left, outward(s), over, past, right, round, sideways, skyward(s), upward(s)

It should be noted that the locative words rendered in (1.a) and (1.b) behave similarly in grammatical terms, that is, they have similar functions in the clause and they establish similar relationships with the rest of the elements in it. The difference between both groups lies in their semantic properties. In this sense, words in (1.a) can be used with dynamic verbs of movement, that is, activities and derived predicates, such as *carry* or *take*, but they can also be used with static verbs, that is, states and derived predicates, such as *place* or *locate*. On the other hand, locational expressions such as those in (1.b) always occur with dynamic verbs, and never with static ones. Let us see some examples of this:

(2)
a. Mary *took* her book of biology *down* to lend it to Tom.
b. Mary *placed* her book of biology *down*.
c. The sea waves *carried* me *forward* yesterday.
d. *The sea waves *located* me *forward* yesterday.

As is illustrated by the above examples, *down* in (2.a) occurs with a dynamic verb, while in (2.b) it occurs with a non-dynamic one. Since *down* is both a location and direction adverb, both sentences are correct. On the other hand, in (2.c) and (2.d) we have the adverbial *forward*, which is just directional. Thus, it does not collocate with static verbs such as *locate*, but just with dynamic ones, such as *carry*.

To refer again to the topic of this paper, as has just been pointed out, all words referring to space and time are prepositions for Huddleston and Pollum (2002). Let us see an example of how they conceive such constructions:

(3)
a. It was raining *outside* just a moment ago.
b. There is a cat *outside* the garage that doesn't stop crying.

For Huddleston and Pollum (2002) (3.a) should not be treated differently from the word *outside* in (3.b) in grammatical terms, apart from the fact that in (3.b) it has an object complement while in (3.a) it does not. Van Valin and LaPolla (1997), who draw a distinction between transitive and intransitive prepositions, also share this idea. This recent categorization, however, presents some problems. To begin with, words like *downstairs* and *upstairs* never take complements. Thus, in these terms they would always have to be addressed as intransitive prepositions. In fact, Huddleston and Pollum (2002) include them within the category of prepositions, while Van Valin and LaPolla (1997) only refer to words such as *down*, which admit both possibilities (that is, taking or not taking complements), and therefore they do not address this question deeply.

Since the hypothesis presented by now thus appears to be quite controversial, it is further developed in the next section. After that, section 3 focuses on the problems that appear following an inadequate categorization of spatial words. Additionally, it proposes a new conception of grammatical categories based on the functional distinctions between reference and predication -or situating and linking-. Such distinctions provide a more dynamic view of language use and grammar. Finally, in section 4 some conclusions are reached and presented.

2. HUDDLESTON AND POLLUM'S (2002) RECATEGORIZATION OF SPACE WORDS

In the first place, Huddleston and Pollum (2002) re-define the category of prepositions by broadening it, and consequently by diminishing the category of adverbs. To do that, they start by providing the standard definition of a preposition in traditional grammar (2002: 598): "It is a word that governs, and normally precedes, a noun or a pronoun and

which expresses the latter's relation to another word". What is innovative is that they "adopt a significantly different conception of preposition" (2002:598). In that sense, prepositions can be heads of phrases, and have dependents of different kinds, not only NPs. This means that prepositions can be complemented by PPs or AdvPs, for instance. Huddleston and Pollum (2002: 614) give a classification of all the prepositions that do not license complements:

(4)
a. abroad, abreast, adrift, aground, ahead, aloft, apart, ashore, aside, away
b. here, there, where, hence, thence, whence
c. east, north, south, west
d. aft, back, forth, home, together
e. downhill, downstage, downstairs, downstream, downwind, uphill, upstage, upstairs, upstream, upwind
f. indoors, outdoors, overboard, overhead, overland, overseas, underfoot, underground
g. backward(s), downward(s), eastward(s), forward(s), heavenward(s), homeward(s), inward(s), leftward(s), northward(s), onward(s), outward(s), rightward(s), seaward(s), skyward(s), southward(s), upward(s), westward(s)

Prepositions that do not admit complements, according to Huddleston and Pollum (2002)

Let us revise some of these so-called "prepositions", in order to see whether it is accurate to consider them intransitive prepositions or not. In the first place, the lexical items in (4.a) do not take NP complements that follow them, but most of them take (NP) complements that precede them, which is a property of postpositional phrases**.** This is illustrated in (5):

(5)
The ball flew *two meters ahead.*
Put the bag *some distance aside.*

Thus, we must admit such locative expressions as above as postpositions that actually *take* complements. Another issue on which

Huddleston and Pollum (2002) may be questioned is on the fact that they state that prepositions can take as complements, not only NPs, but other types of phrases, such as PPs, AdvPs, etc. In this sense, *apart*, *aside* and *away* in (4.a) should be considered, in Huddleston and Pollum's (2002) own terms, to work as prepositions followed by a complement, although this complement is not an NP, but a PP headed by the preposition *from*, as in "Mary pushed the big dog aside from her". Therefore, it seems contradictory to include them in the group in (4.a), considering Huddleston and Pollum's (2002) own definition of prepositions. Another instance of the behaviour of such prepositions, extracted from the British National Corpus, can be seen in (6):

(6)
JYF **2119** `; Moje milá ,'; he gently breathed, and, pulling a little **away** *from her*, he looked down to the naked swollen pink-tipped breasts he had uncovered.

   Thus, as has just been mentioned, if we follow Huddleston and Pollum's (2002) own definition of preposition, there is not any reason to include the items in (4.a) within the group of intransitive prepositions. In this respect, other authors (Lindstromberg 1997, O'Dowd 1998) defend the traditional view that a preposition is always followed by an NP. Thus, they do not regard the words in (4.a) as prepositions, since they are followed by a PP. In this sense, they contend that such words always behave as adverbial particles.
   As can be observed, we have two contrary positions by now. Instead of agreeing with either of them, I propose a middle term, as I have already mentioned. With respect to (4.b), *here* and *there* are deictic expressions. I do not agree with Huddleston and Pollum (2002) in considering these words intransitive prepositions, according to the definition of preposition that I put forward in (7) below. The reason is that these spatial expressions, as well as their deictic temporal counterparts, *now* and *then*, do not imply the relation of an entity or quality with an element of the clause or with the head of a phrase in any sense. Thus, their linguistic behaviour does not correspond to the definition of prepositions proposed below:

(7)
A preposition is a word that links two elements in the clause: the phrase which complements it (called landmark) and an element of the clause, be it the verb or any of its arguments. The complement of such preposition must be referential or, in its case, allow for the possibility of being substituted for by a pronoun, which is inherently referential.

This definition provides a solution to some of the questions raised in this paper. In the first place, it solves the terminological problems related to the naming of locative expressions. In this sense, we call those locative items that head complements which are not referential (that is, they are predicative) or that appear alone *adverbs*. On the other hand, we name *prepositions* those heads of complements that are referential. Thus, this dichotomy is established on the basis of the distinction between reference and predication, which is the starting point of functional grammars. In the second place, and related to what I have just mentioned, this definition is more closely related to the internal features of lexical items than to their names alone. In this sense, there are phrases that may be referential -or act referentially in some cases- although they are not *nouns*, such as the temporal adverbs *yesterday*, *today*, or *tomorrow*. This definition is also applicable to such items, as can be seen in "You will have your car ready *before tomorrow*", where the temporal preposition *before* heads the temporal adverb tomorrow.

The most important aspect of the definition in (7) is that it admits the existence of adverbs of space and time, which are considered as those locational expressions which do not link two elements in the clause, but that predicate something about any element of such clause. Thus, a PP is referential, whereas an adverbial (phrase) is predicative, as can be seen in the examples below:

(8)
a. I have not watched TV **since** *yesterday*. [time adverb]
b. I still do not know anything **about** *who won the competition.* [interrogative clause]
c. You must keep children **away** *from batteries*. [PP]

The complements of the prepositions in the PPs in (8.a) and (8.b) are

referential, even if these complements are not NPs. In (8.c), on the other hand, the complement of *away* is a PP, which is not referential, but predicative. In this case, *away* functions as an adverb, while in the former examples *since* and *about* work as prepositions. As can be observed, the solution of regarding a locative item as a preposition or as an adverb depending on whether its complements are referential or predicative (respectively) is more coherent with a functional perspective of language, which attempts to accommodate the dynamics of language use. At this point, it seems necessary to highlight the difference between the two distinctive notions of *situating* and *linking*. O'Dowd (1998) accurately makes this distinction. This author (1998) states that linking is a property of PPs, while situating is proper of AdvPs. Thus, these two notions are directly related to reference and predication respectively. PPs link two elements in the clause. That is, they introduce an argument into it. Such elements belong to the core meaning of the clause, and they are therefore necessary for a correct understanding of it. By contrast, AdvPs contribute additional semantic content to the clause, in such a way that they modify its meaning as a whole, but their absence does not affect the clausal core meaning.

Continuing with our subject, another shortcoming of Huddleston and Pollum (2002) bears on the treatment of temporal and spatial categories. Huddleston and Pollum (2002) are in favour of rejecting both time and space categories from the adverbial class, so at least they are coherent[2]. This is not the case with Van Valin and LaPolla (1997), who treat the dimension of time as characteristic of adverbials and the dimension of space as a feature of prepositions and operators. Spatial adverbs are therefore neglected by Van Valin and LaPolla (1997), who consider that adverbs are modifiers of different layers of the clause. On the contrary, the semantic and syntactic role of expressing the spatial dimension is granted in Role and Reference Grammar[3] (or RRG) to prepositions and to directional operators respectively. Adverbs, therefore, can not be spatial in RRG, as has been traditionally thought, but they are admitted

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2 Related to the question of adverbs of space and time, see Mackenzie (2001) and Martín Arista (2003).

3 RRG is a functional theory of language which is highly focused on the linking algorithm between syntax and semantics, and whose leading figure is Professor Robert D. van Valin.

within the temporal dimension. This idea goes against the nature of human cognition, which is the basis of language and thought. Time and space can not be separated, and linguistically they are interrelated.

Returning to the items in (4.b), it should be remarked that adpositions (prepositions and postpositions) have a linking or relating property, and this is not the case with deictic words. In this study, as noted above, the criterion to distinguish prepositions from adverbial particles is this linking quality. As I have just noted, adverbs do not link, but situate. Thus, in this case I hold the view that deictic words should be categorized as adverbs.

Turning now to the cardinal names that appear in (4.c), they are usually used as nouns. If prepositions can also work as nouns and as other lexical classes, it is too radical, in my view, to reject any kind of relationship between adverbs and prepositions. Moreover, we again face the same dilemma as before: these words cannot be labelled *preposition*; they can only be treated as adverbial particles. According to the definition of preposition given in (7), if they can be followed by a PP, they are adverbs, since a PP is never a referential landmark. A landmark is referential as a whole. See the examples below:

(9)
a. Diana has **shipped** the boxes *north*
b. Diana has **shipped** the boxes *to the north of Spain*
c. *Diana has **shipped** the boxes *north of Spain*

In (9.a) we have *north* functioning as a particle. It cannot be used as a preposition since, in the first place, it cannot create a PP, as follows from (9.c). In (9b) *north* functions as a noun. This is the only way in which it can take complements. Then, in (9.b) *north* is the head of an NP which works as a landmark of the preposition *to* and which, at the same time, is modified by the PP *of Spain*. For this reason, cardinal words are rejected here as prepositions. With respect to the spatial words in (4.e), (4.f), and (4.g), they are all compounds and they deserve more careful attention. Due to the limitations of this piece of research a discussion has not been developed here.

3. SOME FACTS ABOUT INTRANSITIVE PREPOSITIONS

In this section I am concerned with the idea of intransitivity in prepositions. In this sense, sub-section 3.1. offers a review of O'Dowd's (1998) study of particles and prepositions, since it contributes to the solving of the controversy outlined through this whole paper. Such controversy is further dealt with and solved in sub-section 3.2., by means of relating locational expressions to the LS of induced motion verbs[4], to which they inherently belong. This constitutes additional evidence in favour of the hypothesis upheld in this paper, namely, that locative adverbs exist and that they are syntactically and semantically complementary with locative prepositions.

3.1 O'Dowd's (1998) approach to the problem

O'Dowd (1998) presents a number of syntactic and semantic solutions to what she calls *the problem of* P. *P* refers to all lexical items that can work as prepositions or as adverbs in different contexts. O'Dowd (1998) excludes from the group of P adverbial particles such as *away*, since they never function as prepositions according to the definition given in (7) and prepositions such as *of*, which never appear as particles. The central thesis of O'Dowd's (1998: 55) study is: "P is a discourse-orienting element". O'Dowd (1998: 57) defines orientation as follows: "Orientation is the function of situating elements of information in relation to contextual information". According to the author, orienting has two functions: *situating* and *linking*. Such functions are assumed by particles and prepositions, respectively. Both of them are, in fact, basic to express spatial and discourse orientation. To account for this thesis, the author (1998) relies on statistical studies that demonstrate the tendency of P to be used as a particle when situating elements in discourse and as a preposition when linking them to a specific situation or to a referent within the clause. This hypothesis is coherent, since a preposition links its dependent complements with any element in the clause, usually with the UNDERGOER. Therefore, O'Dowd's (1998)

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4 These verbs are called in RRG *causative movement verbs* or *induced motion verbs*. Some examples are *put*, *place*, *carry* or *take*, and they imply that an agent causes an object or theme to be at a certain location, as can be seen in "Mary has put the book on the table".

distinction has been applied to the locative expressions analyzed in this piece of work.

In line with the above, in terms of functional grammars (Halliday 1985, Van Valin 1993, Lambrecht 1994, Dik 1997), situating is a property of predicates, while linking has referring properties and is therefore a property of terms. Thus, adverbs are predicative, and prepositions are attached to referential complements. However, in some cases adverbs can behave referentially (deictic ones: *here*, *there*, *now*, *then*…)[5], and prepositions can have predicative features (it is not the same to say "the book is *down* the table" as to say "the book is *on* the table"). Both prepositions and adverbs of place are discourse-orienting elements, and due to their similar forms and functions, one class can be mistaken for with the other. We can distinguish them in terms of their grammatical structure, which of course affects their semantic structure. Since the separating line between reference and predication, in relation to these locational expressions, is not clearly established, we can only explain their behaviour in terms of markedness criteria. In this way, the unmarked use of adverbs is predicative, and the unmarked use of PPs is referential. In what follows, I will show how by looking at a higher level of constituency –the clausal level- some answers to the issue of expressing and categorizing location may arise.

3.2 Some proposals for the logical structure of adverbial particles with induced motion verbs

In this sub-section I focus on the logical structure (henceforth LS) of induced motion verbs because they are directly related to locational expressions. I argue, after an analysis of their LSs, that the existence of spatial adverbs in grammar, instead of the existence of just prepositions, should be accepted. In fact, their LS is composed of three argument positions, and the third of such positions is filled by a locative argument. These verbs constitute an interesting point of discussion with respect to this third locative argument when, instead of a locational PP, whose complement is an argument of the verb-, a locational adverb, whose complement is predicative, is used. This is illustrated below:

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5 The issue of the inherent referential properties that spatial adverbs possess is developed by Martín Arista and Ibáñez Moreno (forthcoming).

(10)
She put the book *down the table*
[**do'** (x, Ø)) CAUSE [BECOME **be'-down** (table, book)]]
She put the book *down*
[**do'** (x, Ø)) CAUSE [BECOME **be'-down** (book)]]

This third argument is called "argument-adjunct" (hereafter AAJ) in RRG, because it stands in the middle between adjuncts and arguments. Adjuncts are peripheral and the preposition that heads them is predicative, while arguments form part of the LS of the verb and the preposition that links them to the clause is empty in meaning. An AAJ forms part of the LS of the verb, but at the same time the preposition that links it to the clause is predicative. With respect to locative AAJs, Van Valin and LaPolla (1997: 160) state that verbs such as *put* and *place,* that is, induced motion verbs, show some complexities, because they can take a range of locative prepositions in order to form AAJs, such as *on*, *under*, *next to,* and *behind*. The LS of such verbs has been given in (9). In order to obtain the actual representation of the verb, **be-LOC'** is replaced by the LS of the preposition in question. Van Valin and LaPolla (1997: 160) state that these prepositions introduce an argument which is only indirectly related to the verb, thus the term AAJ. The LS of verbs that take AAJs is incomplete with respect to their argument structure, and so it is completed with the LS of the preposition. After this, it is stated that these verbs do not always take three arguments. According to Van Valin and LaPolla (1997: 160) they can take just two, when instead of an AAJ an *intransitive preposition,* here called *adverb,* is realized:

> This is important, because *put* does not always take three arguments. If it combines with an intransitive preposition, e.g. *down*, the result is a two-argument core, e.g. *Yolanda put the book down* ([**do'** (Yolanda, Ø)] CAUSE [BECOME **be-down'** (book)]), in which *Yolanda* and *the book* are the core-arguments and down is an intransitive preposition, not an argument of *put*". (Van Valin and LaPolla 1997:160)

Therefore, AAJs are only indirectly related to the verb because the preposition that licenses them is predicative on its own and can appear alone. However, the fact of assuming that *down* in the example cited functions as an intransitive preposition raises a number of problems for this analysis. In the first place, as it is stated in Van Valin and LaPolla (1997:147-150), *put* has a semantic valence of three. That is, it has three arguments, although they are not syntactically realized. *Put* has a syntactic valence of two or three depending on this realization. In this case, however, we are dealing with the LS of verbs, which is equivalent to their semantic representation and semantic valence. Thus, the LS of *put* when it occurs with a locative adverb instead of a PP would be:

(11)
Put the book *down*
…CAUSE [BECOME **be'-down** (y)]

However, this is not viable. Firstly the preposition *down* is a two-place predicate (it relates two arguments). This means that it needs a GOAL argument that expresses where the UNDERGOER, in this case *the book,* is finally located. If such argument is not specified, then a blank space that represents a null argument should be left in order to be faithful to the LS of induced motion verbs. For this reason, I propose an alternative semantic representation that reflects the semantic valence of such verbs more transparently. This structure allows a retention of the argument structure of induced motion verbs, independently of whether they take an adverbial particle or an AAJ:

(12)
John put the book down
...CAUSE [BECOME **be-LOC'** (Ø, y)]

This option permits leaving the argument position for location unspecified. This is the case with the LS of many verbs in sentences such as "Tell me", where one argument (the THEME) is lacking. This absence does not imply that the LS of *tell* does is just composed of two arguments. In the same vein, Brinton (1988), when dealing with phrasal verbs and their *Aktionsart*, states that adverbial particles that appear without a

landmark situate the verb in relation to an arbitrary endpoint, and that this information about the goal of the action is enough for the speaker. The landmark still *exists*, but only as an abstraction. Therefore, both adverbs and PPs perform the same role at a clausal level. That is, they introduce the function of location into the clause, either by licensing an argument, as is the case of prepositions, or by setting the mode of action in a spatial dimension, as with adverbs. Thus, in terms of verbal LS, both PPs and adverbial (phrases) must be treated in the same way in the semantic representation. In this way, the LS of induced motion verbs is kept, and its systematicity guaranteed.

The solution adopted in this paper, therefore, is to categorize *down* as an adverb -although Van Valin and LaPolla (1997:160) reject this-, as grammars such as Downing and Locke (1992) and Quirk et *al.* (1985) do. This is compatible when considering the referential value of other adverbs that also fit the LS of induced motion verbs, such as *upstairs* or *underneath*. These adverbs perform the same role in their LS as *on* or *down*, but they can not function as prepositions if my definition of preposition is valid. This is exemplified in (13):

(13)
a. Put the book *downstairs*
b. Put the book *down (the stairs)*

Van Valin and LaPolla's (1997) solution is only accurate for those lexical items included within P, such as *down*, but it excludes the possibility of yielding similar LSs for adverbs such as *downstairs* and *upstairs*, which cannot take an NP complement. Thus, with the LS proposed in (12) this issue is solved. Another issue that provides further evidence for the shortcomings of Van Valin and LaPolla's (1997: 162) position is the fact that they characterize adverbs as just *modifiers* of any layer of the clause. Although modifiers can be represented in any part of the LS of a verb, the closest they can be to predicates is on their left, and they can not complete their argument structure with their own LS, as prepositions do. Some examples of adverbs, according to the semantic representation under RRG, are provided in (14):

(14)
a. Probably, Sam will bake a cake tomorrow
   probable' (**tomorrow'** ([do'(Sam,Ø) CAUSE [BECOME **baked'** (cake)]]))
b. The ice completely melted/ The ice melted completely
   BECOME [**complete'** (**melted'**(ice))]

As can be seen in (14.a), adverbs can be inserted at the beginning of the verbal LS, or they can be represented as in (14.b) if they are modifiers of the predicate itself. In such case the adverb is placed next to the predicate, to the left. Then, an adverb such as *upstairs*, which can not function as a preposition because it does not admit the possibility of being added a landmark -one cannot say *"Yolanda put the book upstairs the table"- would be represented as in (15):

(15)
Yolanda put the book upstairs
?? [do' (Yolanda, Ø) CAUSE [BECOME **upstairs'** (**be'**(y)]]

If we follow Van Valin and LaPolla's (1997) categorization of locative items, *upstairs* is represented as an adverb that modifies the whose clause and which is not essential for the basic interpretation of the verb. However, *upstairs* is not a just a modifier in (15), since it is actually essential for the interpretation of the verb. In Van Valin and LaPolla's (1997) terms, in order to occupy the position that *down* has in LS, *upstairs* would have to be identified as a preposition. In order to solve this incongruity, spatial adverbs should be granted the same function as prepositions in the LS of induced motion verbs, namely, that of locational expressions. Pairs such as *upstairs* and *up*, *downstairs* and *down*, play the same role in the semantic interpretation of *put*. Therefore, they should be given a similar representation. Moreover, one must be reminded of the inconsistency of the theory in considering temporal words as adverbs on one hand and spatial items as prepositions on the other, since space and time are interrelated concepts and should not be separated. They must be included within the same lexical class.

4. CONCLUSIONS

In this paper the conclusion has been reached that place adverbs must be admitted as a functional category, and that they should occupy the same position in the semantic representation of induced motion verbs as prepositions, since this is the only way to account for their LS in an accurate way. Thus, an account of the semantics of these verbs, carried out through lexical decomposition in order to create generalizations, has resulted in the conclusion that AAJs are basic for an adequate establishment of their LSs. Such AAJs can be realized either by PPs, or by spatial adverbs (or by AdvPs). This conclusion implies that the semantic valence of induced motion verbs is invariably three, independently of whether the third argument is overtly realized or not. That is, if there is an adverbial particle, which bears no complements, carrying out the function of an AAJ, instead of a PP, the third argument slot in the semantic representation of the verb is to be left empty. When this third argument position, which is potentially filled by locative complements, is left empty, it is implied that the valence of the verb is invariably three. This idea is in line with Harder (1992), and contrary to Van Valin and LaPolla (1997), who hold the view that induced motion verbs can have a semantic valence of two, if they occur with a spatial adverb, called *intransitive preposition* in RRG, or three, if they occur with a PP. Therefore, the conclusion has been reached that place adverbs exist, and that prepositions only occur with a complement. These adverbs should occupy the same position in the semantic representation of induced motion verbs as prepositions, since this is the only way to represent their LS. The empty slot indicates that there may be something there, in the sense that the referred location is implied, though not explicitly expressed.

If this argument is valid, the contradictory conception of adverbial and prepositional lexical items found in Van Valin and LaPolla (1997) is solved. These authors use the label *intransitive prepositions* to refer to those words that refer to location that do not take an object complement, so that *down* or *here* are not spatial adverbs for them. However, Van Valin and LaPolla (1997) do not refer to temporal adverbs as *intransitive prepositions*, so that *today* or *tomorrow* are referred to as temporal adverbs. As a result, the dimensions of space and time are semantically, and consequently syntactically, separated, which goes against our own

conceptualization of meaning and of the external world. Consequently, I have put forward some reasons that justify the impossibility of this classification. These reasons lead to the recognition of the existence of the class of adverbs of space and time in grammar and in semantics, and to the acceptance of the fact that the spatial dimension is relevant for the LS of motion verbs. From this it follows that not only PPs, but also AdvPs are realized as AAJs in such LS. In any case, the alternative semantic representation proposed for adverbs and prepositions in the LS of induced motion verbs may need further revision, so further studies on this topic would be welcome.

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