A COGNITIVE APPROACH TO CONTRASTIVE ANALYSIS: TWO PREPOSITIONS OF LOCATION IN ENGLISH AND SPANISH

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ABSTRACT. *This paper is part of a Ph.D. that studies spatial prepositions in English and Spanish from the perspective of Space Grammar, as stated by R. Langacker (1987, 1991). It seeks to establish if there is a word-to-word correspondence among spatial prepositions in these two languages, and to discover the underlying patterns of correspondence that may be relevant. One important objective is to evaluate the possibilities of cognitive theory, not only in its application to general linguistic research, but also for linguistic studies of a contrastive nature. The paper points out the cognitive and linguistic validity of such semantic structure as image schemas and prototypes, as well as other perceptual properties that are central to a semantic analysis of spatial prepositions. It also attempts to indicate the ways in which contrastive analysis can contribute to research in linguistic typology.*

KEYWORDS. *Cognitive theory, contrastive analysis, semantic structure, image schemas, prototypes, perceptual properties, linguistic typology.*

RESUMEN. *Este artículo forma parte de una tesis doctoral que estudia cierto número de preposiciones locativas en inglés y español, según las teorías de R. Langacker (1987, 1991). Se intenta establecer si existe correspondencia biunívoca entre preposiciones espaciales en ambas lenguas, procurando identificar las pautas de equivalencia que resulten relevantes. Uno de los principales objetivos consiste en evaluar las posibilidades de las teorías cognitivas en relación a su aplicabilidad, no sólo a la investigación lingüística de tipo general, sino también a los estudios lingüísticos de naturaleza contrastiva. El artículo pone de manifiesto la validez cognitiva y lingüística de estructuras semánticas tales como imágenes esquemáticas y prototipos, así como de otras variables perceptuales que resultan centrales para el análisis semántico de preposiciones. Por otro lado, se intenta demostrar el modo en*

que el estudio contrastivo puede contribuir a la investigación sobre tipología lingüística.

`PALABRAS CLAVE. Teoría cognitiva, análisis contrastivo, estructura semántica, imágenes esquemáticas, prototipos, variables perceptuales, tipología lingüística.*

1. INTRODUCTION

This paper focuses on Contrastive Analysis within the framework of cognitive theory. It is not my intention to go into the many and important issues of the theoretical aspects of Contrastive Analysis (from here on, CA), nor will I deal with the pedagogical implications of CA for second language acquisition. My interest in CA concerns its role in the context of Applied Linguistics, and is viewed as a valuable tool for what can be called "mainstream linguistic research" (Jaszczolt 1995: 564). As such I have used it, and this has enabled me to set up a number of useful typological characteristics for the field of spatial prepositions in English and Spanish.

2. METHODOLOGICAL CONSIDERATIONS.

2.1. *Theoretical framework*

The analysis was carried out within the theoretical framework of Space Grammar, as stated by R.W. Langacker (1987, 1991). I have applied a methodological approach similar to that of Brugman (1988) in her study of *Over*. For my examples, I made use of a computerized Corpus of Spoken English. For the verification of the meanings of Spanish prepositions, a number of Spanish dictionaries were consulted, such as María Moliner (1991).

First of all, I set about establishing the senses of a number of spatial prepositions in the source language, i.e. English. For the purposes of this paper, I will focus on just two of them: *By* and *Past*. The analysis sought to establish the cognitive or semantic properties of each prepositional use, such as Trajectory, Position, Distance, Deixis, etc., to name but a few. These semantic properties conform the semantic "body" or *meaning* of the prepositions, in the form of *image schemas* or "gestalts". These conform categories of schemas that can be organized into coherent and well-structured radial networks, as can be seen in Appendix I.

2.2. *The method*

The second stage was to look for the translation equivalents of these prepositional uses in L2, i.e. Spanish. This procedure of looking for the equivalents for a certain category of the source language in the target language is one of the accepted ways in which a contrastive study can be carried out.

Sajavaara (1981: 37) points out the methodological principle that states that the structure of the languages to be compared should first be described by means of one and

the same theoretical model; these descriptions should then be contrasted for the specifications of similarities and dissimilarities. Such a formulation, irreproachable in theory, could not be carried out in just this way in an analysis like the one I was attempting, for reasons that will be mentioned below.

In most cases, the procedure in CA is one of the following:

1) the same categories of the two languages are contrasted.
2) the equivalents for a certain category of the source language are sought in the target language (or vice-versa).
3) rules or hierarchies of rules in the two languages are compared.
4) the analysis starts from a semantic category whose surface realizations are sought in the languages to be contrasted.
5) the analysis starts from various uses of language.

In this case, procedure number two was the only plausible way in which I could undertake the analysis. I was not comparing anything of an abstract nature, such as a given semantic factor or a rule, and looking for its realization in the two languages. My analysis took English for its starting point; the level of linguistic organization which I was aiming to analyse was the lexical domain.

I assumed, in accordance with cognitive theory, that conceptual structure is of a universal or near-universal nature; consequently I considered that once I crossed the bridge of translation, and in spite of the risks of such a procedure, I would find entities of a similar semantic nature to those in L1. And indeed I did, but they were not to be found at the same level of linguistic organization.

3. THE NATURE OF IMAGE SCHEMAS

3.1. *Notion of image schema*

The notion of *image schema*, as used in this paper, is similar to that suggested by linguists such as Langacker (1987), and Lakoff (1987). It can be defined as a conceptual semantic structure that occurs repeatedly in the minds of speakers during the process of categorization. An image schema is a "gestalt" in the sense that the parts function as a whole; the whole is also psychologically simpler than the parts. In the case of prepositional categories, image schemas are made up of *semantic* or *cognitive properties*, such as the type of trajectory, dimensions of the landmark, position, view-point of speaker, end-point focus, etc. The conceptual domain for prepositional usage is three-dimensional space, which is a very basic and prominent cognitive domain. The characteristics of the spatial domain will thus determine the specifications or parameters that are relevant for the analysis.

3.2. *Prototypical versus basic schema*

Another important concept is that of *prototypical* and *basic* schematic configurations. A basic schema is the most simple or abstract schema in a category, the

one which is at the core of all the other schemas and from which the other schemas can be derived, by adding to, or suspending from it, certain perceptual properties (Langacker 1987). A prototypical schema is the most well-known example of the category, the best example or the one that represents the category most completely. My research shows that it is a relatively easy task to identify a prototypical schema (marked here with a circle); however, it is not always possible to identify a basic schema (marked with a square).

For example, in the case of *By* there are two prototypical schemas, one with and one without a Trajectory. The semantic factor that links schema A to schema G is the perceptual notion of Proximity. In the case of *By* there is no basic abstract schema from which the rest of the schemas can be derived.

For *Past*, the semantic property that links the prototypical schema to schema B is the existence of an implied or mental trajectory. As in *By*, no basic schema arises for this category.

Each of these elements can be represented visually, in a schematic way. Appendix II offers some examples of visually representable image schemas for these two prepositions.

3.3. *Figurative language*

Each prepositional sense is a category in itself, and displays variations. One kind of variation, and indeed quite a frequent one, is the metaphorical or abstract extensions of the preposition, which depart from its canonical or literal meanings. Many of these examples in English typically involve phrasal verbs (Lakoff & Johnson 1980). These extensions seem to be motivated by a perceptual similarity brought about by the existence of a common domain which is perceived by the speaker. A large number of these usages can be attributed to metaphors that have a cultural and experiential origin; however, most of them are still firmly grounded, conceptually speaking, on their original spatial meanings. Langacker does not establish a difference between literal and figurative language: the latter is an intrisically important part of linguistic organization. He views figurative language as a kind of semantic extension, but we can also view it, like Lakoff, as a specific type of categorization. These considerations do not rule each other out, and it might prove useful to consider them in a complementary way.

4. RESULTS

The analysis revealed a number of semanto-syntactic equivalences, which can be presented in a formalized manner, as in Table 1 below.

L1   L2

non-specified LM ———————▶ 1) lexical verb

BY

specified LM ———————————▶ 2) lexical verb + preposition

non-specified LM ———————▶ 3) lexical verb

PAST

4) lexical verb + gerund

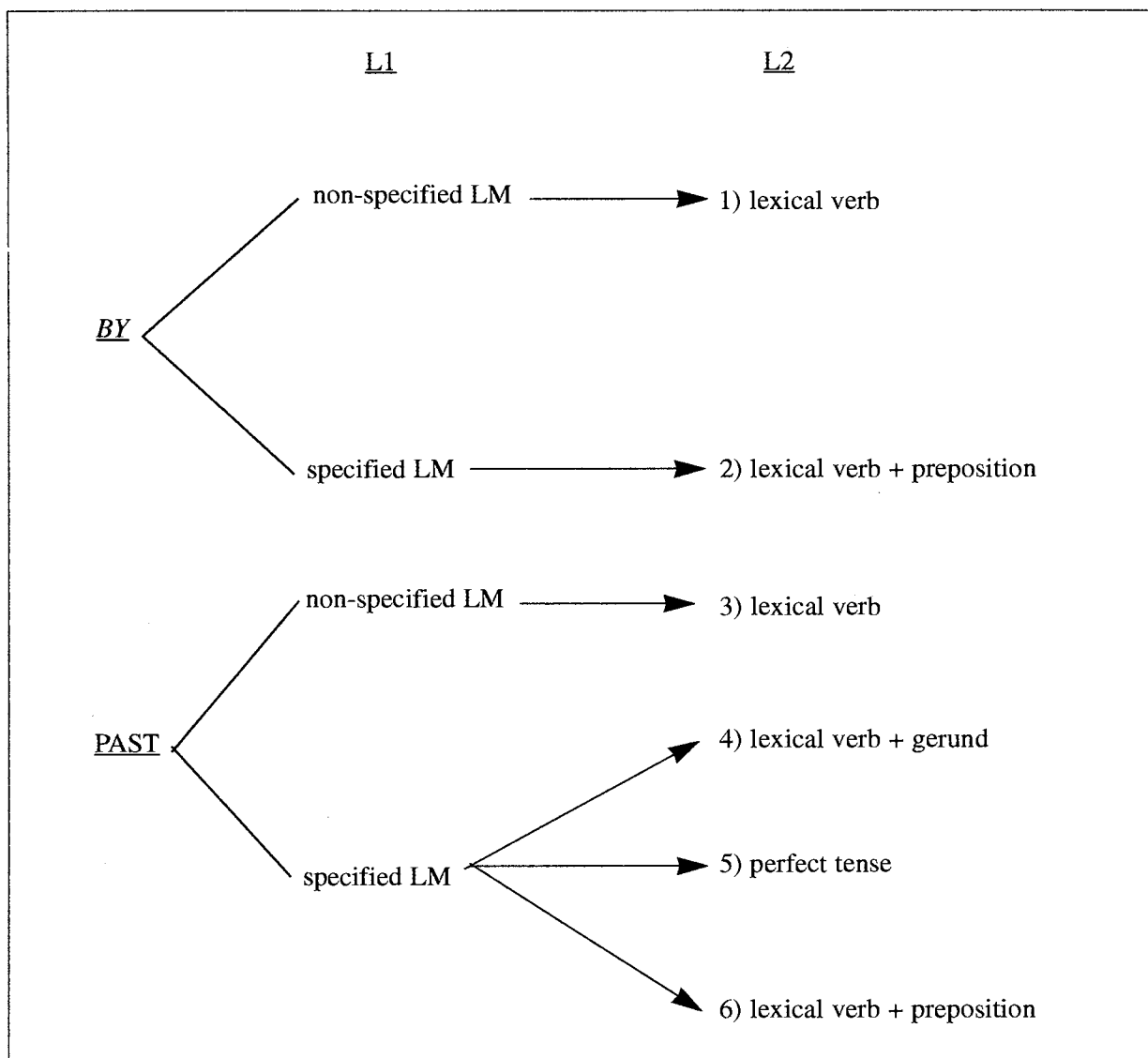specified LM ◀—————————▶ 5) perfect tense

6) lexical verb + preposition

Table 1. *Semanto-syntactic equivalences.*

The following sample sentences are intended to clarify and exemplify each of the structures mentioned above.

Examples of semanto-syntactic equivalences for *By*:

1) He hurried by without a word.
   Pasó apresuradamente sin una palabra.

2) He had a whisky and soda by the fire before going to bed.
   Se tomó un whisky con soda cerca del fuego antes de irse a la cama.

Examples of semanto-syntactic equivalences for *Past:*

3) When Miss Black went past, she said hello.
   Al pasar, la Srta. Black saludó.

4) The bullet crashed past him, ripping the air apart.
La bala pasó rozándole, desgarrando el aire.

5) He was past the obstacle, so he could relax.
Había pasado el obstáculo, por tanto podía relajarse.

6) A whole line of people was hurrying past the statue of Earl Haig.
Una fila entera de personas pasaba rápidamente por delante de la estatua de Earl Haig.

5. LINGUISTIC IMPLICATIONS

5.1. *Implications for L1*

The data reveals that there is no word-to-word correspondence among spatial prepositions in English and Spanish. *Only if there is a specified LM in L1, will there be some kind of prepositional equivalence in L2.* If there is no specified LM in L1, the semantic characteristics conveyed by the English preposition, whatever they may be, are expressed in Spanish by the lexical verb, *alone or in conjunction with an infinitive or gerund.* Talmy (1991) reaches similar conclusions. He points out that English and Spanish differ as to *where* (i.e. the syntactic site) a number of semantic verbal properties are expressed. In English, a preposition may be related semantically to the verb, and will thus express a number of "verbal" properties, such as trajectory, change of state, temporal contouring, action correlation, and realization. Whereas in Spanish, the lexical verb, as mentioned above, will normally express these properties.

My research shows that we can establish several typological differences for L1 and L2. In English, a great amount of the semantic content of the verb is expressed linguistically by means of the preposition that follows it in the sentence. In an overall way, I believe that the semantic nature of the verb is a greater influence on the specifications of the preposition than that of the LM configuration; in fact, often there is no syntactically specified LM in the sentence. This does much to reduce the semantic autonomy of English prepositions, which is not to imply that prepositions in themselves have no semantic content.

I have also found that, at a very deep level, English prepositions have a special cognitive influence of either the concept Trajectory or the LM entity. In this way, *Past* is heavily dependent on Trajectory, whereas *By* is not particularly dependent on either factor. This perceptual characterization does not seem to carry over into Spanish in any clear and relevant way that I have been able to establish.

5.2. *Implications for L2*

In Spanish, however, lexical verbs display a greater semantic autonomy. The choice of preposition in Spanish seems to depend, to a great extent, on the nature of the nominal expression that follows, i.e. the Landmark entity, and displays a high degree of

semantic independence in relation to the verb. The concept of dimensionality is a highly relevant factor in the choice of preposition in L2. The data reveals that this is not the case in English, where the preposition performs, both semantically and syntactically, functions that in Spanish are conveyed by the lexical verb.

In conclusion, we can establish that there is no word-to-word correspondence among spatial prepositions in English and Spanish. As a category, they perform divergent semantic and syntactic functions.

6. VALIDATION OF THE THEORETICAL DESCRIPTIVE MODEL

The application of CA reveals that a given prepositional sense in L1 gives rise in L2 to either a verbal configuration, or a preposition. The reason for this can be attributed to considerations of a semanto-syntactic nature. What is certain is that we have reached our results in the course of a *semantic* linguistic description, that is, at the deepest level of analysis that is possible. If we have established a sound methodological procedure, equally sound results will probably follow. In the light of my own work, I feel that these are sufficient grounds to validate the descriptive model, from a theoretical as well as from a practical point of view.

7. IMPLICATIONS FOR CONTRASTIVE ANALYSIS

7.1. *The issue of "tertia comparationis"*

Fisiak (1990: 6) points out that different levels of linguistic organization require different "tertia comparationis" or parameters of measurement for the analysis. This was the main problem I encountered, from a theoretical point of view, in the course of my CA, as there was no previously established criterion other than the semantic properties established for L1 within the lexical categories being analysed. As mentioned above, I ended up in L2 at a different level of linguistic organization, that is, the syntactic plus the lexical level. This shows that in CA it is not always possible to maintain a strict separation between levels of anlaysis, as traditional theory maintains, due to the fact that *a given semantic configuration in one language may be rendered in another by means of divergent semantic and syntactic strategies.*

However, we may get round this problem if the analysis is of a semantic nature. Such an analysis will reveal the similarities and differences in the languages compared, and will show if semantic content is dependent or not on syntax, which in turn, is much more language specific.

7.2. *The notion of prototypicality in CA*

Krzeszowski (1990: 42) suggests that a complete contrastive study should be able to establish degrees of prototypicality for the equivalences found in L2. This, which can

de done for L1 with relative ease, may not be possible at a cross-linguistic level. The reason is that the equivalences found may not be equivalent at surface level, as mentioned in 7.1. For example, we cannot equate verbal expressions and prepositions; they are different categories, both from a cognitive and a linguistic point of view.

8. CONCLUSION

It is my belief that contrastive studies should be coherent from a theoretical point of view, and should be carried out within the framework of a given linguistic approach. As before with the structuralist and generative models, research should now be carried out in order to explore the possibilities of cognitive theory. Semantic contrastive analysis has enabled me to establish a clear pattern of semanto-syntactic equivalences for L1 and L2, showing that semantic content, in the lexical field, is expressed by means of divergent syntactic strategies in these two languages. Thus CA has ample application for linguistic typology, and can contribute with valuable findings to general mainstream linguistics. Finally, it confirms the fact that the concept of prototypicality is, in all probability, *language-specific because of its empirical nature*, and cannot be easily applied to cross-linguistic categories, neither in the semantic nor in the lexical domains.

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APPENDIX I

RADIAL NETWORKS

This appendix is intended to give the reader the graphic representation corresponding to the radial networks for the English prepositions *By* and *Past*.

A brief explanation is given of the cognitive status for the different schemas.
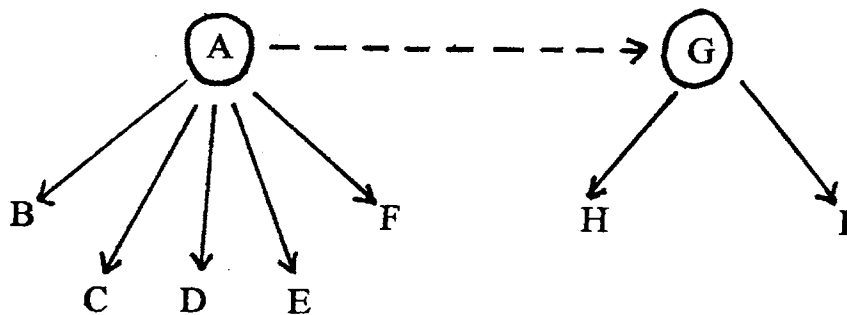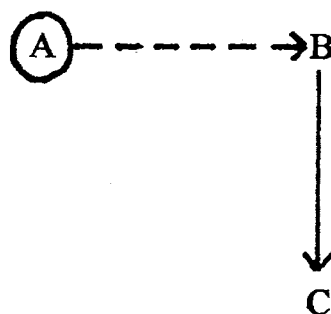
SCHEMAS FOR *BY*

Fig. 1

SCHEMAS FOR *PAST*

Fig. 2

Cognitive status for categories:

BY.

A= prototype for the group with Trajectory.

B, C, D, E, F= instantiations of A.

G = prototype for the group without Trajectory.

H, I= instantiations of G.

Basic schema = 0 (none).

The semantic property that links schema A and G is Proximity.

PAST

A= prototype.

B= instantiation of A.The semantic factor that links A and B is the existence of an implied mental trajectory in B.

C= instantiation of B, with the addition of a resultative semantic factor.

Basic schema= 0 (none).

APPENDIX II

IMAGE SCHEMAS

This appendix surveys a range of some of the image schemas that correspond to the different senses of *By* and *Past*, in order to illustrate the descriptive capacity of these mental structures.

Each graphic representation is accompanied by a brief explanation of its meaning from a semantic point of view, along with a corresponding example.

The meanings of the image schemas are presented as they appear in the radial network structures in Appendix I.

IMAGE SCHEMAS FOR *BY*

A) Meanings with Trajectory that express passage (motion towards a point and then away from it).
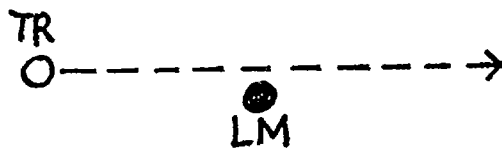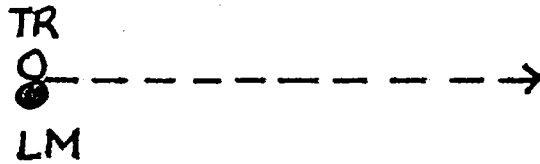

(1) I go by the post office every morning on my way to work.

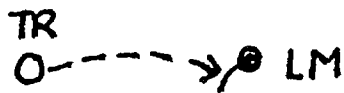B) Meanings with Trajectory that express motion in relation to a directional axis.

(2) Did you come by the nearest road?

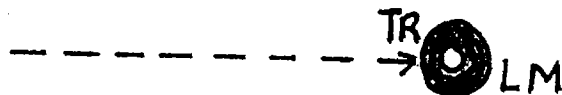C) Meanings with Trajectory that indicate means of transport.

TR
Ǫ— — — — — — — — — →
LM

(3) I move about by car or by bus.

D) Meanings with Trajectory that express contact or part of object or body that is touched.

TR
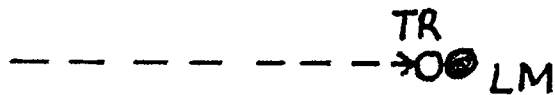O- - - - ⇥ø **LM**

(4) He seized the Japanese by the arm.

E) Meanings with Trajectory that express deixis.

— — — — — — — **TR**◉**LM**

(5) I stopped by and spent the night with Stuart Dereham.

F) Meanings with Trajectory that indicate destination.

— — — — — — —**TR**⇥O◉ **LM**
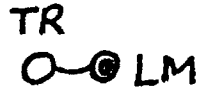
(6) Make sure you go round by the hall to wake other people up.

G) Meanings that express position, indicating proximity.

TR

O ◉ **LM**

(7) I went to a little pub down by Dick´s new place.

H) Meanings that express position, indicating partial contact of TR and LM.

TR

O—⊚ LM

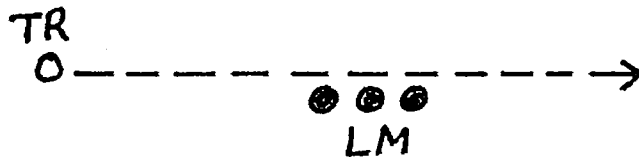(8) He held the cherry by the stalk.

I) Reflexive uses.

TR = LM

(9) The good seed and the weeds grow side by side.

IMAGE SCHEMAS FOR *PAST*

A) Meanings with Trajectory that indicate passage.

TR
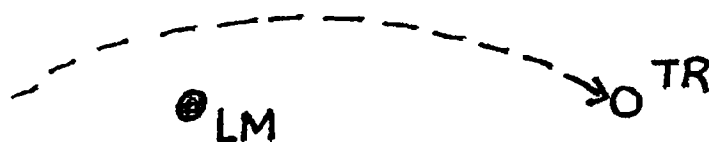**O** — — — — — — — — — →
LM

(10) They walked down past the police barracks.

B) Meanings without Trajectory that indicate position.

TR
● **O**
LM
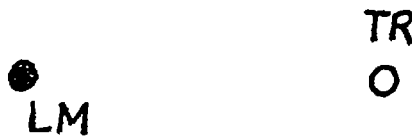
(11) The village is past the bus stop.

C) Meanings without Trajectory that express completion.

●LM **O TR**

(12) The ball bowled by Hawke is past the field. (implied or mental trajectory).

It is important to note that schema *By*-A displays the same semantic characteristics as *Past*-A, i.e. Trajectory + Passage. This semantic and functional overlap is effective whether the LM is specified or not. Consider the following examples:

(13) a. He walked by without a word.
b. When she walked past she said hello.

(14) a. I go by the post office every morning on my way to work.
b. They walked down past the police barracks.

In (13), both prepositions are polysemous. In cognitive terms, the focus of attention is on the trajectory, not on the LM. What is conveyed is a meaning of proximity.

However, in (14), the focus of attention is centered on the continuation of the trajectory beyond the limits of the LM, which is syntactically specified, in such a way that the notion of proximity is lost, especially in the case of (14b). In this case, the prototypical use of *Past* (implying trajectory beyond the limits of the LM) becomes appropriate.