UNIVERSITY OF MURCIA

International Journal of English Studies

IJES

www.um.es/engphil/ijes

Fictive Motion in English and Spanish

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ABSTRACT

This paper analyzes fictive motion expressions in English and Spanish with the twofold aim of (a) finding out whether the differences that have been reported in the expression of motion in English and Spanish also apply to fictive motion, and (b) checking whether the similarities and differences reported by Matsumoto for English and Japanese also apply to English and Spanish. We start by offering a detailed account of the similarities and differences between the expression of motion in English and Spanish; subsequently, we take a closer look at fictive motion expressions in English and Japanese. We then present two different studies carried out with the aim of gathering additional data on Spanish fictive motion expressions. The first study focuses on the strategies used by translators in rendering fictive motion expressions from English into Spanish. The second experiment analyses a corpus of expressions generated using elicitation from drawings. The paper concludes with a discussion of the findings and directions of future research.

KEYWORDS: fictive motion, motion verbs, satellite-framed languages vs verb-framed languages, cognitive linguistics, translation strategies.

I. INTRODUCTION

The linguistic expression of motion has attracted a great deal of attention in recent times (cf. Bowerman & Choi 2001, Brown 2001, Choi & Bowerman 1991, Iwata 2002, Levinson 2001, Naigles & Terrazas 1998, Naigles et al. 1998, Radden 1996, Slobin 1996a, 2000, inter alia). This

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interest is partly due to the fact that its study has revealed some striking typological differences which crosscut many languages.

In the pioneering studies of Talmy (e.g. Talmy 1975. 1983) two types of languages are distinguished, depending on how the elements of a motion scene are mapped onto linguistic units. *Satellite-framed languages*, such as English or German, tend to express two different elements in a single linguistic form (i.e. the verb): MOTION and MANNER OF MOTION. Thus. English verbs such as *walk, limp* or *crawl* not only provide information about some entity changing location from one point to another, but also about the manner in which the motion is carried out. On the other hand, *verb-framed languages*, such as Spanish or French, tend to 'conflate' the element of MOTION along with information conceming the PATH. Thus, Spanish verbs such as *subir* ('go up'), *bajar* ('go down') or *cruzar* ('go across') provide information about the presence of motion, as well as about the direction that the motion takes.

Moreover, these typological differences have certain consequences for issues of language processing (cf. Slobin 1996a, 1996b, 2000 or Naigles *et al.* 1998, Naigles & Terrazas 1998). In his THINKING FOR SPEAKING theory, Slobin has described how English and Spanish speakers attend to different aspects when describing motion scenes. When English speakers describe a visual scene. they tend to focus on dynamic aspects, specifying which elements are moving from one place to another and frequently including in their description the manner in which the movement proceeds. Spanish speakers, on the other hand, seem to favour less dynamic descriptions, offering more details about the static aspects of the scene, and leaving for the hearer the inference of the details of the movement. They thus use less motion verbs than English speakers and mention less details about the manner of motion, describing less complex paths.

Such typological differences also seem to influence translators' strategies when dealing with verbs of motion (Slobin 1996). In this sense, Slobin reported significant informational differences when translating motion elements between English and Spanish. Manner of motion was frequently lost from English into Spanish but added from Spanish into English. Also, complex paths were often simplified when translated from English into Spanish.

Motion verbs can also be used in cases in which no real, physical movement occurs. This can be exemplified by considering (1):

(1) a. Frodo climbed to the top of the hill
b. The path climbed to the top of the hill

In (1a), Frodo physically moves, changing his location from the bottom to the top of the hill. However, in (1b) the path does not move in any physical (or metaphysical) way. Instead, this sentence prompts the hearer for a conceptualization of the scene in which the path is scanned in a given direction (in this case, starting at the bottom of the hill and ending at the top). This type of motion has been termed *fictive* motion (FM)(Talmy 1983, 1996,2000; Matlock 2001); other labels are *abstract* motion (Langacker 1986, 1987) or *subjective* motion (Matsumoto, 1996).

In fictive motion expressions (FMEs), one cannot find any element which physically changes place and moves from one place to another. Rather, the displacement that is found in FM is "mental"; the hearer, when reconstructing the scene evoked by the sentence, mentally traces a given object in a certain direction. As Huumo (2001) puts it, in FMEs:

> ... the motion verb and the directional locatives reflect the direction of a mental scanning performed by the conceptualizer in building up the mental representation of the situation. The position of an elongated entity is represented gradually, as if mentally proceeding along the entity.

Adopting a Cognitive Linguistic (CL) perspective, Matsumoto (1996) has compared English and Japanese fictive motion expressions, and has pointed to some intriguing similarities and differences, opening an interesting locus of study for cross-linguistic comparison. For example, he reports that not all objects can be described by a fictive motion expression in Japanese; non-travellable paths, that is. paths which cannot be travelled by humans (for example, walls and fences) cannot take part in Japanese FMEs. By contrast, in English this restriction does not hold and, in principle, all paths are amenable to a FM description. As far as the similarities are concerned, Matsumoto mentions two conditions that apply to both English and Japanese FMEs. The PATH CONDITION states that in all FMEs, some aspect of the path must be expressed: the MANNER CONDITION specifies that if the verb includes information about manner of motion, this information must be somehow related to the path: that is, it should tell us something about its overall shape (Matsumoto's results are discussed in greater detail in section 3).

In this study. we are going to look at fictive motion expressions in English and Spanish with a double aim:

1. Finding out whether the differences that have been reported in the expression of motion in English and Spanish also apply to fictive motion
2. Finding out whether the similarities and differences reported by Matsumoto for English and Japanese also apply to English and Spanish

To achieve these general aims, the following research questions have been formulated:

a. Will the same informational gain/losses be found in the translation of fictive motion expressions as in the translation of real motion?
b. Will the differences reported for the expression of real motion in English and Spanish apply when describing a scene using fictive motion expressions?
c. Will the similarities and differences found by Matsumoto (1996) in English and Japanese fictive motion expressions also apply to English and Spanish?

In what follows, we will first offer a more detailed account of the similarities and differences between the expression of motion in English and Spanish; subsequently, we will take

a closer look at fictive motion expressions in English and Japanese. We then go on to answer our research questions. Research question A will be approached by analyzing the gain or loss of information found in three translations of English novels into Spanish. Research questions B and C will be looked at by analyzing a number of English and Spanish FMEs obtained by elicitation from drawings. The paper will conclude with a discussion of the findings and directions of future research.

II. MOTION IN ENGLISH AND SPANISH

In Talmy's original papers (Talmy 1975, 1983), he identified five elements in the motion schema: FIGURE (the thing that moves), GROUND (with respect to what it moves), MOTION (the movement itself), MANNER (how the motion is carried out) and PATH (direction of motion). As we have already outlined in the introduction, these elements can be expressed by languages in different ways. In English and other 'satellite-framed' languages, verbs usually tend to conflate MOTION and MANNER while the PATH element is expressed by means of a 'satellite' (e.g. a preposition). On the contrary, in Spanish and other 'verb-framed' languages, the path is incorporated into the verb, manner being optionally expressed by means of an adverbial.

Talmy's initial suggestion was that Spanish speakers, having at their disposal more path-verbs than manner-verbs, would tend to use more often verbs that incorporate path to describe motion events, while English speakers would tend to use more verbs that conflate manner. This initial impression has been further advanced and modified by a number of authors. For instance, Aske (1989) has shown that the Spanish preference for path verbs occurs only in the case of resultative motion events, i.e. those which include the beginning and end point of motion; these sentences tend to contain the prepositions a, de or para, as in (2):

(2) Unu mujer cruzó ***de*** un lado del bosque ***al*** otro
[lit. 'a woman crossed from one side of the forest to the other']

Later on, Slobin (1996) elaborated Aske's findings and linked the preference for path verbs to the notion of 'boundary-crossing'. Thus, when in the description of a motion event some type of 'boundary' is crossed, Spanish speakers must use a path-conflating verb. When no boundary is crossed, though path is still preferred, a manner-of-motion verb can be used. Such would be the case of el hombre corrió hasta la *casa* (lit. 'the man run up to the house'), which is a resultative (or telic) event, but includes, nonetheless, a manner-conflating verb (correr, 'run'). Finally, Naigles et al. (1998) added a further refinement to this discussion. In their study, path verbs were used more frequently in Spanish when the boundary traversed was horizontal (e.g. entering a building) than when the boundary was vertical (e.g. jumping into a pool); in the latter case, a manner-conflating verb would be more typical.

English and Spanish also exhibit outstanding differences in the expression of the path.

The fact that path is most frequently expressed in English by a satellite-headed phrase (e.g. a prepositional phrase) confers this language a great deal of flexibility when describing complex paths. It is often the case that several segments of a complex, boundary-crossing path are adjoined as prepositional phrases to the same motion verb, as in (3):

(3) He went **out of** the kitchen **across** the dining room **into** the bedroom.

This mechanism is called 'clause-compacting': the specification of different segments of a path by concatenating several prepositional phrases in the same verbal phrase. Spanish behaves differently, since different verbs must be used for each of these segments:

(4) ***Salió*** *de la cocinu,* ***cruzó*** *el comedor* ***y entró*** *en el dormitorio.*
[lit. 'he exited the kitchen, crossed the dining room and entered the bedroom']

These differences in the mechanisms for expressing complex paths have significant consequences in several areas of language processing and are proving to be a highly active research topic (cf. Slobin 1996a-b, 2000, Naigles *et al*. 1998).

III. PICTIVE MOTION IN ENGLISH AND JAPANESE

ln his analysis of English and Japanese fictive motion expressions (FMEs), Matsumoto (1996) outlines interesting similarities and differences between the two languages. The similarities include two conditions, which Matsumoto calls the PATH CONDITION and the MANNER CONDITION. Briefly, the PATH condition states that in FMEs, some property of the path must be necessarily expressed. Thus, a FME must always include some path-related information, which may be either encoded in the verb or conveyed by some adverbial or adpositional phrase. Consider then the examples in (5):

(5) a. The road runs*
b. The road runs along the coast
c. The road began to ascend/descend

Comparing (5a) and (5b), it can be seen that *run* needs an adverbial expressing some property of the path for its proper use in fictive motion. On the contrary, when the verb incorporates some information on the path, as the verbs *ascend* and *descend* in example (5c), no complement is required. This condition does not appear to be controversial, since a FME is actually a prompt for the computation of a "mental path", an invitation for the hearer to "scan sequentially" the length of a given object in a certain direction, and thus the linguistic presence of a path seems consubstantial and indispensable to these expressions.

The MANNER CONDITION could perhaps a bit more questionable. Matsumoto states that when a manner-conflating verb participates in a FME, the information on manner conveyed by the verb must be somehow related to some specific feature of the path. Literally, he states that "no property of the manner of motion can be expressed unless it is used to represent some correlated property of thc path" (Matsumoto, 1996: 213). Consider, for example, the sentences in (6):

(6) a. The cyclist zig-zagged along the valley
b. The highway zig-zagged along the valley

In (6a), the verb *zig-zag* provides information about the manner in which the motion is carried out by ahuman agent. However, when the subject is an inanimate object, as in (6b), no physical motion is performed and this information is therefore related to the overall shape of the path. In some cases, the information can make reference to other aspects of the path, such as its gradient or slope. This can be seen in (7):

(7) a. The road plunged downhill
b. The road inched uphill

The verb *plunge* in (7a) includes information about the manner of motion (specifically, speed): such information can be readily mapped onto the slope of the road, so that we understand that the road was very steep. Conversely, the verb *inch* means roughly 'to move slowly and carefully'; in the example (7b), this information is again mapped onto the slope of the road, which becomes gentle. increasing its elevation slowly.

Some manner verbs participate more readily in FMEs than others, depending on how easily their information is mapped onto details of the path which the conceptualizer must imagine. So, verbs such as *zig-zag* or *snuke* make a very clear reference to the overall shape of thc path (cf. example 8a). Others, such as *slide* or *roll* seem harder to relate and are therefore less natural in these contexts (e.g. example 8b).

(8) a. The path zig-zaggedlsnaked up the hill
b. ??The path slid/rolled up the hill

Kegarding the differences between English and Japanese FMEs, Matsumoto notes that in Japanese, certain objects cannot participate in FMEs; only objects which relate to "travellable paths", i.e. paths that would normally be travelled by people. can participate[1]. Non-travellable paths, that is, linear objects onto which an image of human motion is not normally projected, such as walls, telephone lines, wires, etc., are perfectly fine in English FMEs, but unacceptable in Japanese. Japanese verbs cannot be used to represent untravellable paths because the

description of this type of paths requires a high degree of abstraction and Japanese motion verbs usually demand a high degree of concreteness.

IV. SOME DATA ON FICTIVE MOTION IN ENGLISH AND SPANISH

In this section, we introduce two studies which have been carried out with the aim of gathering some additional data on Spanish fictive motion expressions. The experiments described in the studies have been designed using two different methodologies. The intention was to collect different empirical data that could be used as "convergent" material' towards the comnion goal of analysing FM expressions in English and Spanish. The first study focuses on the strategies used by translators when dealing with the transfer of FMEs from English into Spanish; the second experiment analyses a corpus of expressions generated using elicitation from drawings.

IV.1. Study 1: the translation of fictive motion expressions

*IV.*1.1. *Introduction*

As we mentioned in the introduction, Slobin (1996) reported significant informational differences when translating events of motion. When going from English into Spanish, his results showed a general loss of information, which was reflected in both the translation of manner of motion and the transfer of complex paths. To start with. Spanish translators were found to leave out information on the manner of motion in about 50% of the cases. Thus, when faced with a sentence such as 'They plunged across the road into the long grass on the other side' Spanish translators would tend to omit information about manner. replacing the English manner-conflating verb with an appropriate Spanish path verb, as in *'Cruzaron el camino hacia la hierba alta del otro lado'* (lit. 'thcy crossed the path towards the long grass on the other side').

Translators were also reported to simplify the frequently coniplex English paths. This was specially cvident in the cases where the original texts used 'clause-compacting'. The ability of English to incorporate manner information into the verb and use prepositions or satellites to draw the path of movement enables the expression of a complex path using just one verb, as in "fhen I, too, went **down** the steep twisting path **through** the dark woods **to** the beach below'. To deal with this type of examples, Spanish translators tended to break the path using scveral verbs that provide a richer imagery for the setting than for the movement of the characters, as in *'También* yo ***tomé*** *entonces el pendiente y tortuoso sendero que,* ***atravesando*** *la arboleda oscura,* ***bajaba*** *a la playa'* (lit. 'I also took then the steep tortuous path which, crossing the dark woods, descendcd to the beach'). However, this option sometimes resulted in a stylistically awkward translation, and translators opted for eliminating some of the segments, an option followed in about 24% of the cases.

On thc contrary, when going from Spanish into English, complex paths were no problem. English translators naturally expressed the path information conflated in Spanish verbs by using prepositional phrases. Furthermore, they tended to translate Spanish path verbs using manner-

conflating verbs. In this way. when dealing with the translation of a sentence such as *'luego de diez minutos de asfixia y empujones,* ***llegamos*** *alpasillo de la entrada...'* (lit. 'after ten minutes of suffocation and shoving, we arrived at the corridor of the entrance'), English translators showed a tendency to add manner, creating more colourful expressions and making explicit information that in the Spanish source text was left implicit and could only be inferred by the reader: *'...after ten minutes of nearly being smothered or crushed to death, we finally* ***fought our way to*** *the exit'*.

IV.1.2. Method

Aim: Our study aims to check whether the informational differences arising from the translation of path and manner of motion also apply to the translation of fictive motion expressions. The intention is to find out whether the same gain and/or loss of information takes place in the translation of fictive motion expressions as in the translation of 'real' motion verbs.

Materials: In order to carry out the analysis of the translations, we selected three novels with a subject matter that at first sight seemed to favour the use of fictive motion expressions. The novels selected were the following:

The Lord of the Rings (J.R.R. Tolkien)
[ElSeñor de *los Anillos,* Ed. Circulo de Lectores, translated by Luis Domeiiech & Matilda Horne]

The Lord of the Flies (William Golding)
[ElSeñor de las Moscas, Ed. Alianza Editorial, translated by Carmen Vergara]

On the Road (Jack Kerouac)
[Enel Camino, Ed. Anagrama, translated by Martin Lendínez]

We also attempted to include English translations of Spanish fictive motion expressions in our study. However, the number of examples in the Spanish novels examined was insufficient for our analysis. Even in those novels with topics that apparently seemed good candidates for this type of expressions, very few instances of FMEs were found. This unavailability seemed to evidence a much smaller frequency of fictive motion expressions in Spanish, a fact that already suggested a difference in the use of FMEs in both languages. The books examined were:

Viajes a la Alcarria by Camilo José Cela (lit. 'Trips to La Alcarria')
Por tierras de Portugal y de España by Miguel Unamuno (lit. 'Through lands of Portugal and Spain)
Cien Años de Soledad by Gabriel Garcia Márquez ('A Hundred Years of Solitude')
Retrato en Sepia by Isabel Allende ('Portrait in Sepia')
El Paisaje de España visto por los Españoles by Azorín (lit. 'The Landscape of Spain seen by Spaniards').

Having decided to focus our study on translations from English into Spanish, we then

proceeded to the analysis of the English novels selected. From these novels, we extracted 200 examples of FMEs. To select these examples we concentrated only on those cases in which there was a verb of motion and no physical motion occurred:

> ST: …and take the hidden paths that **run** towards the moon (The Fellowship of The Ring, p. 112)
> TT: Y *tomemos los senderos ocultos que* ***corren*** *hacia la luna* (La Comunidad del Anillo, p 85)

Doubtful cases, such as the motion of fluids, sound, light, etc. were excluded. The examples with sound and light involve a type of motion which cannot be visualized (at least without technological aids); regarding fluids, it is often unclear whether the motion refers to the path followed by the fluid or to the liquid itself.

IV.1 3 Results

Verb types in English and Spanish: To compare our results with the data obtained by Slobin when analysing real motion, we started by computing the overall number of fictive motion verbs found in English and Spanish (see table 1 below). In contrast to Slobin's report of a higher percentage of English motion verbs, our results showed a slightly greater number of expressions containing a fictive motion verb in Spanish translations: 193 examples in Spanish and 180 in English. These figures correspond to the actual number of tokens found in the novels, that is, they include all the different verbal expressions contained in our corpus. So, in order to exclude the possibility that these figures were influenced by the use of the same verb in different forms or with different prepositions, we calculated the number of verb types found in the novels. The difference between the number of verb types used in either language was smaller than the figure reported for the verb tokens, but it was still slightly higher in Spanish: 75 types in Spanish as opposed to 68 in English.

We then computed how many ofthese verbs were manner-conflating and how many were path-conflating. This time the figures agreed with Slobin's results for real motion verbs. As expected, more manner verbs were found in English (23 verbs out of 68) than in Spanish (17 verbs out of 75). Similarly, Spanish, being a verb framed language, showed a higher number of path conflating verbs (41 verbs out of 75) than English (28 out of 68) Moreover, in both languages we found 17 examples that included no verb (3 cases) or verbs that are not typically used to express fictive motion, but that in the particular context seemed to evoke some sort of figured movement (14 cases). For example, the verb *lay* in the following context can evoke some sort of mental tracing along a path:

> Source Text (ST): at this point there were tree trunks or bundles of brushwood laid carefully across (The Fellowship of The Ring. p. 112)

This is probably the reason that led the translator to highlight this sort of figured movement by using a fictive motion verb in Spanish:

> Target Text (TT): *y en estos puntos y puestos allí con cuidado, había unos troncos de árboles o unos manojos de ramas que* ***iban*** *de orilla a orilla* (lit. 'and at these points and laid carefully there, there were tree trunks or bundles of brushwood that went from bank to bank')(La Comunidad del Anillo, p. 85)

	Total n. of verbs (tokens)	*Total n. of verbs (types)*	*Manner verbs (types)*	*Path Verbs (types)*	*Others (types)*
English	180	68	23	28	17
Spanish	193	75	17	41	17

Table 1: **Total number of fictive motion verbs**

Translation strategies: Next, we analyzed the strategies used to translate English fictive motion verbs into Spanish, focusing on the loss or gain of path and manner information. Our results revealed that, out of the 180 examples of FMEs, information on the manner of motion was lost in 19 cases whereas the path was omitted in 11 cases. The gain of information was negligible; we could find only two cases where the Spanish verbs could be somehow considered more specific than the English ones:

> ST: The hard road curves away to the left (...) But that **is** miles out of the way (The Fellowship of the King, p. 124)
> TT: *Pero el camino tuerce hacia la izquierda (...) Se* ***desvía*** *muchas millas.* (lit. 'but the road turns to the left (...) It deviates many miles')(La Comunidad del Anillo. p. 96)

> ST: The path stopped climbing, and **became** for a while nearly level. (The Fellowship of the Ring, p. 157)
> TT: *la senda dejo de ascender y ahora* ***corría*** *por un llano.* (lit. 'the path stopped climbing and now it ran through a plain')(La Comunidad del Anillo, p.121)

However, the cases were doubtful since the information conveyed by the Spanish verbs also seemed to be in a certain way present in the English prepositional phrases *'out of the way'* and *'for a while'*.

As we have already indicated, in a very small number of cases (3 examples), we found that a fictive motion verb was used in Spanish even when there was no verb in the English original text. as in the following example:

> ST: He used to say that on the path **outside** the front door (The Fellowship of The Ring, p. 107)

TT: *Acostumbraba* ***decirlo en el sendero que pasaba frente a la puerta principal*** (lit: 'he used to say it on the path that passed outside the front door')(La Comunidad del Anillo, p 84)

In these cases. translators, rather than looking for the direct equivalent of the English verb, preferred to use a Spanish fictive rnotion verb that incorporated the path expressed in the English preposition.

IV. 1.4. Discussion

At first sight, our results seern to contradict Slobin's report of a greater nurnber of verbs of rnotion in English than in Spanish. However, our findings of a higher nurnber of Spanish verbs can be explained in terms of the differences between the two languages regarding their resources for clause-cornpacting and boundary-crossing. The translation of sentences with boundary-crossing often involves the use of several Spanish verbs corresponding to only one English verb in the source text. Even when there is no boundary crossing, the concatenation of particles indicating path in English is often translated by several verbs that incorporate the rneaning of the prepositions into the Spanish verbs:

ST: Their way **wound along** the floor of the hollow, and **round** the green feet of a steep hill **into** another deeper and broader valley, and then **over** the shoulder of further hills, and **down** their long limbs, and **up** their srnooth sides again, **up on to** new hill tops and **down into** new valleys (The Fellowship of the Ring, p. 187)

TT: ***El camino serpenteaba*** *a* ***lo*** *largo* ***de la hondonada, bordeando el pie verde de*** *una* ***colina escarpada hasta entrar en un valle*** *más* ***profundo y*** *más* ***ancho, y luego pasaba sobre otras cimas descendiendopor las largas*** *estribaciones* ***y subiendo otra vez por las*** *faldas* ***lisas*** *hasta* ***otras cumbres, para bajar luego*** *a* ***otros valles*** (La Comunidad del Anillo, p. 145)

When cornparing the inforrnational differences found in our translation with the reports on real motion, a significant difference was revealed. In the translation of real rnotion from English into Spanish, Slobin reported an irnportant loss of inforrnation. His study revealed that path inforrnation was lost in alrnost 24% of the cases and rnanner information was ornitted in alrnost 50% of the cases. However, our results with fictive rnotion showed a rnuch srnaller loss, since path information was only supressed in 6.11% of the cases and rnanner was ornitted in 10.5% of the cases. Concerning information about the path, this tendency to keep details about the trayectory can be due the translators' reluctancy to ornit inforrnation which is regarded as basic, since in fictive rnotion expressions, the focus of attention lies on the path itself. Regarding rnanner, it should be borne in rnind that rnanner inforrnation is included less frequently in fictive

motion expressions: only in those cases in which it can be related to the path of motion. Since manner is related to the path, and the path is central in this type of expressions, translators are again reluctant to lose information regarded as important. Moreover, FMEs are normally considered as 'literary', and translators are thus more prone to keep the image than to sacrify it in favour of naturalness. Similarly, readers are more willing to accept expressions that would be regarded as unnatural in a real motion setting:

> ST: where the pink cliffs rose out of the ground, there were often narrow tracks **winding** upwards (The Lord of the Flies, p. 25)
>
> TT: *A menudo, donde los riscos rosados se erguían del suelo, aparecían senderos estrechos que* ***serpenteaban*** *hacia arriba* (lit: often, where the pink cliffs rose out of the ground, there appeared narrow tracks which wound upwards)(El Señor de las Moscas, p. 31)

To sum up, an examination of the strategies used in the translation of fictive motion events reveals several differences as compared to the treatment of real motion events. In general, translators are much more faithful to the original examples in the case of fictive motion than in the case of real motion. When dealing with clause-compacting in real motion, Spanish translators tended to break the path using several verbs that provided a richer imagery for the setting than for the movement of the characters. But when the information was too condensed, this option resulted in a stylistic awkard translation and translators then opted for eliminating some of the segments. However, in translating fictive motion expressions. translators are more reluctant to omission since both path and manner seem to play a more central role. As we have already mentioned, the MANNER CONDITION states that in fictive motion expressions the information about manner must be related to path. Since information about path is basic in fictive motion expressions, then this sort of path-related manner also acquires a bigger prominence. Moreover, the restrictions imposed by this condition reduce the amount of manner information used in these expressions, which poses less problems for translators.

1V.2. Study 2: elicitation from drawings

IV.2.1. Introduction

Many of the differences and similarities reported for English and Spanish motion expressions have been arrived at by exarnining a corpus generated using elicitation from drawings. This was the paradigrn used in Slobin's Frog Stories (Slobin 1996) as well as as in Naigles *et al.* (1998) study. This paradigm allows for the creation of a corpus of examples which is spontaneous and natural, and which can be subjected to scrutiny, including statistical quantitative analysis. Slobin (1996) presented different drawings which described episodes frorn a story involving various action scenes that encouraged subjects to produce different motion expressions. Naigles *et al.*

(1998) used the sarne paradigrn, though, in their case, the different drawings were not constrained by any overall story. Their study included drawings of objects (usually. humans) moving along different paths (e.g. entering, exiting, crossing, approaching, etc.) and in different manners (e.g. sliding, skipping, running, etc.)[3], which their subjects had to describe.

There are certain problems which hinder the direct application of this paradigm to the elicitation of FMEs. By definition, FMEs describe motion which is not ***real,*** but only *imagined.* This poses important problerns for this paradigrn; in order to elicit FMEs, subjects would have to perforrn a particular 'visual scanning' of concrete elernents of a scene. However, it is not obvious how stimuli should be designed to prompt the mental scanning that subjects need to carry out in order to produce FMEs. On the other hand, a corpus of spontaneous FMEs could be very difficult to compile, due to the scarcity of fictive rnotion descriptions as compared to real motion ones. We thus seern to be left with the traditional linguistic method known as 'distributional analysis', that is, made-up sentences whose grammaticality or acceptability are evaluated by the linguist/analyst[4].

We have striven to adapt the elicitation-by-drawings paradigm to FMEs. Initially, we presented subjects with a picture depicting a landscape with several elernents amenable to fictive rnotion description (cf. Figure 1). However, subjects tended to focus on irrelevant details and provided few or no exarnples which could be useful for our purposes.

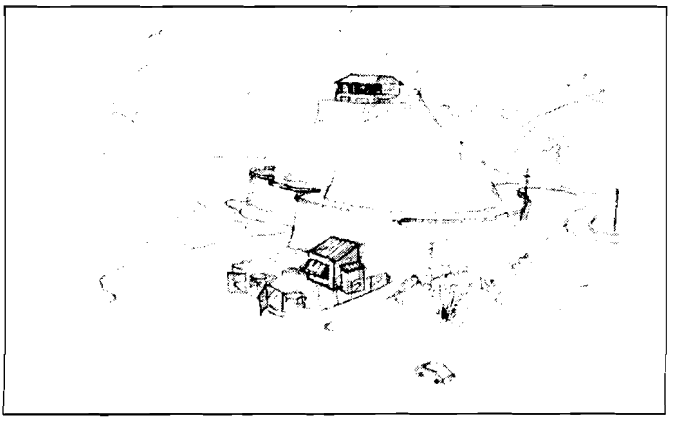

Figure 1: Scene with several elements arnenable to fictive rnotion description

What was needed then was a method of directing the subject's attention to the element to be described. We achieved this by showing subjects two versions of the same picture (A & B): one (A) with at least one element amenable to fictive motion description and another identical picture (B) in which the only difference was that this elernent was missing (cf. Figure 2). The missing element lended itself to a fictive motion description; in fact. in some cases. it would be

difficult to think of an adequate description of the elernent without using fictive rnotion rneans. To further encourage an adequate description of the element using FMEs, subjects were asked to give instructions to an artist to include the rnissing elernent in drawing B. In this way, we ensured that attention was directed to the desired elernent, without rnentioning it explicitly.

In this study, we want to find out whether English and Spanish FMEs will mirror the sarne differences found for the expression of real rnotion. It seerns that there is no complete agreernent concerning the evidence on the use of verbs of rnotion by English and Spanish speakers. As we have already rnentioned, Slobin (e.g. Sebastian & Slobin 1994) found out that the overall nurnber of different verb types produced by English speakers was greater than that of Spanish speakers. However, and contrary to their own predictions, Naigles *et al* (1998) reported more verb types used by Spanish speakers. In the context of this experirnent, which concerns fictive rnotion, the nurnber of verbs used by English speakers would be expected to be smaller, since the wider repertoire of English rnanner verbs is heavily constrained by Matsumoto's MANNER CONDITION. Considering the prominence of path in FMEs, the richness of Spanish path-verbs inventory rnakes it probable that Spanish speakers will use a higher number of verb types. On the other hand, both Slobin and Naigles agree that English speakers tend to use more manner verbs as opposed to the Spanish greater use of path-verbs. This irnbalance is expected to be reduced in our experirnent, considering the aforementioned restrictions on rnanner verbs in FMEs.

Finally, regarding the similarities and differences between English and Japanese FMEs, our initial predictions are that both the PATH and MANNER conditions will apply to Spanish FMEs. These restrictions seern in fact consubstantial to the very nature of FM, and therefore probably universal. Concerning the differences on the types of entities that can be the focus of FMEs in English and Japanese, no difference is to be expected between English and Spanish.

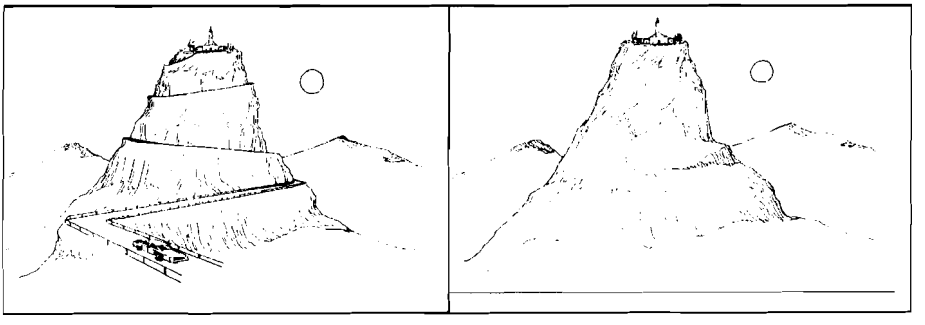

Figure 2: Versions A and B of drawing 1

*IV.*2.2. Method

Subjects: The subjects were 14 native English speakers (4 males, 10 females) and 14 Spanish native speakers (4 males, 10 females); in both cases, speakers were educated up to University level. In the case of English speakers. some were still undergraduates from the University of Cornell, New York; Spanish speakers had all completed their degrees.

Materials: The stimuli were seven pairs of black-and-white drawings (an example is shown in Figure 2; see Figure 3 for the complete set). For each pair of drawings, the same picture was shown, having but one difference: there was some element in picture A which was not present in picture B. The pictures depicted different types of elements amenable to fictive motion descriptions: four different types of roads, a picket fence, a hedge and a bridge. These elements had various shapes (linear, circular, square or winding) and could be construed as bearing different relationships to their rcspective landmarks: surrounding a given landmark (drawings 1-5), approaching it or, alternatively, going away from it (drawings 1 & 3), crossing it (drawing 7) and going through it (drawing 6). Some pictures allowed for more than one of these relationships simultaneously (e.g. approaching and surrounding in drawings 1 & 3).

Procedure: Subjects were intervicwed individually in their respective native languages. The 14 Spanish and 14 English subjects were shown the seven pairs of drawings and were asked to give instructions to an artist to complete picture B, so that both pictures could be made identical[5]. To eliminate possible ordering effects, presentation of the drawings was randomized. No time limits were established. All interviews were tape-recorded in a portable cassette-recorder and later transcribed.

Verh *types*: The classification of verbs as path-conflating or manner-conflating is a controversia1 question which is still debated. It seems that the classifications vary depending on the particular aims of the different studies; e.g., the verb *fall* is treated as a path-verb in some cases and as a manner-verb in others.[6] The classification methods are also different. For example. Naigles et *al.* (1998) used a norming study; they gave native speakers a list of verbs and asked them to rate them as path or manner related using a 1 to 7 scale. On the other hand, other authors, such as Slobin, take a predefined list of parameters as a starting point.

In this study, we will consider a verb as path related when it generally denotes a 'direction' in an Source-Path-Goal image-schema. Such direction can involve a *boundary-crossing* event (e.g. cross), it can be *source* or *goal* oriented (e.g. *approach, leave*), *landmark oriented* (e.g. *surround, encircle*), or verticulity oriented (e.g. *ascend, descend*).

Manner can be characterized as an element which accompanies a main event (as in Talmy's (2000) 'co-events'). A complex event such as 'he slid down the hill' can be analyzed into two sub-events '(a) He moved towards the bottom of the hill (b) in a sliding manner'. Manner can also be considered to accompany the motion throughout the whole event: in 'he slid

down the hill', the sliding manner of motion holds constant while the subject is moving downwards. Accordingly, we will classify as a manner conflating any verb that subsumes any of the following qualifications of the action described by the verb: motor puttern (e.g. *crawl, skip*), rute (e.g. *am*ble, run), *attitude* (e.g. *strut, swagger*), force *dynamics* (e.g. jump, *leap*), *shape of the path* (e.g. wind, *zig-zag*), *medium* (e.g. *swim, fly*) and socialfunction (e.g. *march, parade*).

*IV.*2.3. *Results*

Motion *verbs*: The overall length of the descriptions supplied by English and Spanish spcakers was highly similar; the total number of words used by English speakers was 4.394; on their part, Spanish speakers used 4.317 words[7]. This means that, in general, no group of speakers was more verbose or laconic. Regarding the number of verbs of motion used 'fictively' to describe the scenes, the figures were also quite similar, as shown in Table 2.

Spanish FM verbs	*English FM verbs*
1. acceder (2)	1. angle (2)
2. ascender (2)	2. ascend (2)
3. atravesar (14)	3. circle (2)
4. bajar (9)	4. come (8)
5. bordear (14)	5. converge (1)
6. circundar (1)	6. cross (3)
7. cruzar (8)	7. curve (16)
8. dar la vuelta (3)	8. cut (3)
	9. fall (1)
9. descender	10. follow (2)
10. desviarse (1)	11. go (55)
11. entrar (1)	12. head (2)
12. ir (17)	13. lead (5)
13. llegar (14)	14. move (3)
14. pasar (9)	15. run (2)
15. ponerse (1)	16. slope (1)
16. rodear (35)	17. split (1)
17. subir (5)	18. surround (5)
18. venir (1)	19. tum (3)
	20. wind (13)
	21. wrap (2)
	22. zig-zag

Table 2: *FM* verbs used by Spanish and English speakers

Spanish speakers used 18 different verb types, corresponding to 131 tokens. The most frequent verb is *rodear* ('go round'), which is mentioned 35 times, followed by ir ('go'), 14 times. In English there are more types (22) and a slightly smaller number of tokens (125). The most frequent verb is go (55 tokens), which is combined with many different satellites: *across,*

around (20), *back, hehinú, down* (6), *in, in and out, in front of, into* (2), *over* (2). *round* (2), *through* (4) and *up* (11). In English, the most frequent verb combination is *go around,* corresponding to the Spanish most frequent verb, *rodear.*

Out of this list, most verbs were 'path-verbs' in both languages. According to our definition. not a single instance of the Spanish list could be considered a 'manner-related' verb. In English, only three of them could be classified as manner-verbs: *run, wind* and *zig-zag.*

In some cases, both Spanish and English speakers described some aspect of the target element with non-motion verbs (i.e. verbs whose subjects corresponded to the target entity -or path- to be described). In English, they were 3 types, corresponding to 8 tokens: *connect (5), continue, jut, hem,* and *form.* In Spanish, more types were used (7 different types), for a similar number of tokens (9): *vallar, cercar, coger, comunicar, continuar, unir (3)* and *abrirse.*

FME Subjects: To check whether there were any restrictions on the type of elements that could participate in FMEs, we noted down the types of verbs used to describe each of the drawings; the idea was that a reduced number of motion verbs in the description of a given drawing would point at the difficulty of submitting the element to a FM characterisation. As can be seen in Table 3. no such differencc was found. and, in general terms, all elements could be described fictively in both languages.

	English	***Spanish***
Drawing 1 (fence-around-house)	**angle,** *circle, go, run, surround,*	**rodear, ir, pasar, llegar**
Drawing 2 (tunnel-through-mountain)	**go, cuf, ctirve,** *wrap, follow*	**afravesar. bordear, entrar**
Drawing 3 (road-round-cliff)	**go,** *wind,* **come, converge,** *follow,* **curve,** *split, fall, head,*	**acceder, ascender, bordear, circundar, descender, desviarse, rodear, subir. ir**
Drawing 4 (road-up-church)	*go, lead, wind,* **come,** *turn, angle, slope, curve, ascend, zig-zag,* **wrap**	**ascender, bordear, llegar, ir, rodear, subir, venir,**
Drawing 5 (bridge-across-river)	**go, cross**	**atravesar, cruzar,** *subir,* **unir**
Drawing 6 (road-round-house)	*lead, wind, move,* **curve, come,** *turn, lead,*	**acceder, bordear, dar la vuelta,** *llegar, ir, ponerse, rodear*
Drawing 7 (hedge-round-pool)	*go,* **surround, circle, run**	*bajar, bordear, ir, llegar, pasar,* **rodear**

Table 3: Motion verbs used for each drawing

Nevertheless, when looking more closely at the number *ofsubjects* used with these verbs, that is, which objects were chosen as target-paths, it was found that the number was slightly different for English and Spanish (cf. Table 4). In Spanish, 11 elements were chosen for this purpose: *cerca, valla* and *verja* (all roughly meaning 'fence'), *barandilla* ('railing'), *curva* ('curve'), *pendiente* ('slope'), *puente* ('bridge'), *seto* ('hedge'), *túnel* ('tunnel'), *camino* ('path') and *carretera* ('road'), this object being the most frequent. In English, however, more elements

appeared as subjects of FMEs, making a total of 16: *fence, bridge, bushes, guard-rail, hundrail, bottoms, line, hedge, ladder, puthwuy, part, river, street, tunnel, walkway*, and *road*; again, this last element was the most frequent subject in English FMEs.

Spunish	*English*
1. barandilla	1. fence
2. cerca	2. bridge
3. valla	3. bushes
4. verja	4. guard-rail
5. curva	5. handrail
6. pendiente	6. bottoms
7. puente	7. line
8. seto	8. hedge
9. túnel	9. ladder
10. camino	10. pathway
11. carretera	11. part
	12. river
	13. street
	14. tunnel
	15. walkway
	16. road

Table 4: FMEs subjects in English and Spanish

IV.2.4. Discussion

Differences in the overall number of verbs: Our initial prediction was that Spanish speakers, having at their disposal a richer inventory of "path-verbs", and given the prominence of path in FM, would produce an overall number of verbs higher than English speakers. However, our results showed that English speakers used a higher number of verbs in their descriptions: 22 verb-types vs 18. Although the difference is not too prominent, the greater number of English verbs is still striking, considering that English is a satellite-framed language with a supposedly smaller stock of path-verbs.

It must be noted, though, that English speakers tended to use a small core of verbs in a very frequent fashion, as Naigles *et al.* reported in their study of real motion. In their study, 6 verbs accounted for 80% of the total verbs (as tokens). In our case, the verb *go* and its combinations accounted for almost half of the total number (43,65%). And just three verbs, *go, curve*, and *wind*, account for 2 thirds of the total: 66.66% (*go* 43.65%, *curve* 12.7% and *wind* 10.31%). This concentration of most usages around a small core is not found in Spanish, in which the type/token relationship is more balanced. Thus, in Spanish, the most frequent verb was *rodear* 'go round', which accounted for just 26,71%. Also, the number of verbs which were barely

mentioned (e.g. once or twice) was higher in English: 13 verbs in English vs just 8 in Spanish. This preference of English for the verb *go* can be explained in terms of the English capacity to express path in the satellites: this allows English to use a "basic level" verb, which expresses practically no information about path and no information about manner, in combination with different path-expressing satellites. Another factor that should be taken into account is relatcd to the rethorical differences between both languages. While in English it is stylistically appropriate to repeat the prototypical verb as many times as necessary, Spanish tends to favour the use of stylistic variants (cf. Rojo & Valenzuela 3001 for an example of this in verbs of saying).

Manner vs puth verbs in *FM*: Our second prediction stated that the difference in thc use of manncr and path verbs between English and Spanish speakers would be much reduced in FM. This prediction was based on the assumption that the general preference for manncr verbs in English is limited here by Matsumoto's MANNERCONDITION. To a great extent, this has been the case, since practically no language group used manner verbs; Spanish speakers did not produce any single verb which could bc considered a manner verb, while English speakers produced only three: *run,* wind and zig-zug. The verb run must be considered a manner verb: it conveys information about rate or speed (as in *dash* or inch) and can be also related to a spccific motor pattcrn (as in *limp* or *gallop*). Of thesc two, the information about rate of motion can be related to the path in terms of 'ease of displacement'. However, in general terms, the use of *run* appears to bc highly lexicalized or conventionalized and the salience of the manner information it introduces is doubtful, and could be considercd to have 'bleached'. The other two English manner-vcrbs, *wind* and zig-zug can bc casily related to a particular shape of the path to be described, and thus are in close agreemcnt with Matsumoto's MANNER CONDITION.

As in real motion, English FMEs use clause compacting whcn describing the shapc of thc path; they tend to describe different sections of a path using just one verb to which succesive prepositional phrases are added establishing different sections of a complex path. So. it is easy to find expressions with two directional prepositions (9a), three (9b) or even four (9c):

(9) a. it curves **around in front of** the tree stand
b. it curves **back to the left** and **around** the back of the church,
c. a hedge that goes **around** the pool going **in front of** the stands and **behind** the umbrcllas and **down**

However. this does not mean that Spanish speakers are less precise conccrning thc details of the path. Perhaps due to the highly directed aim of thc exercise, Spanish speakers werc as precise as English speakers: they just used different mechanisms, often inserting new vcrbs for each scgmcnt.

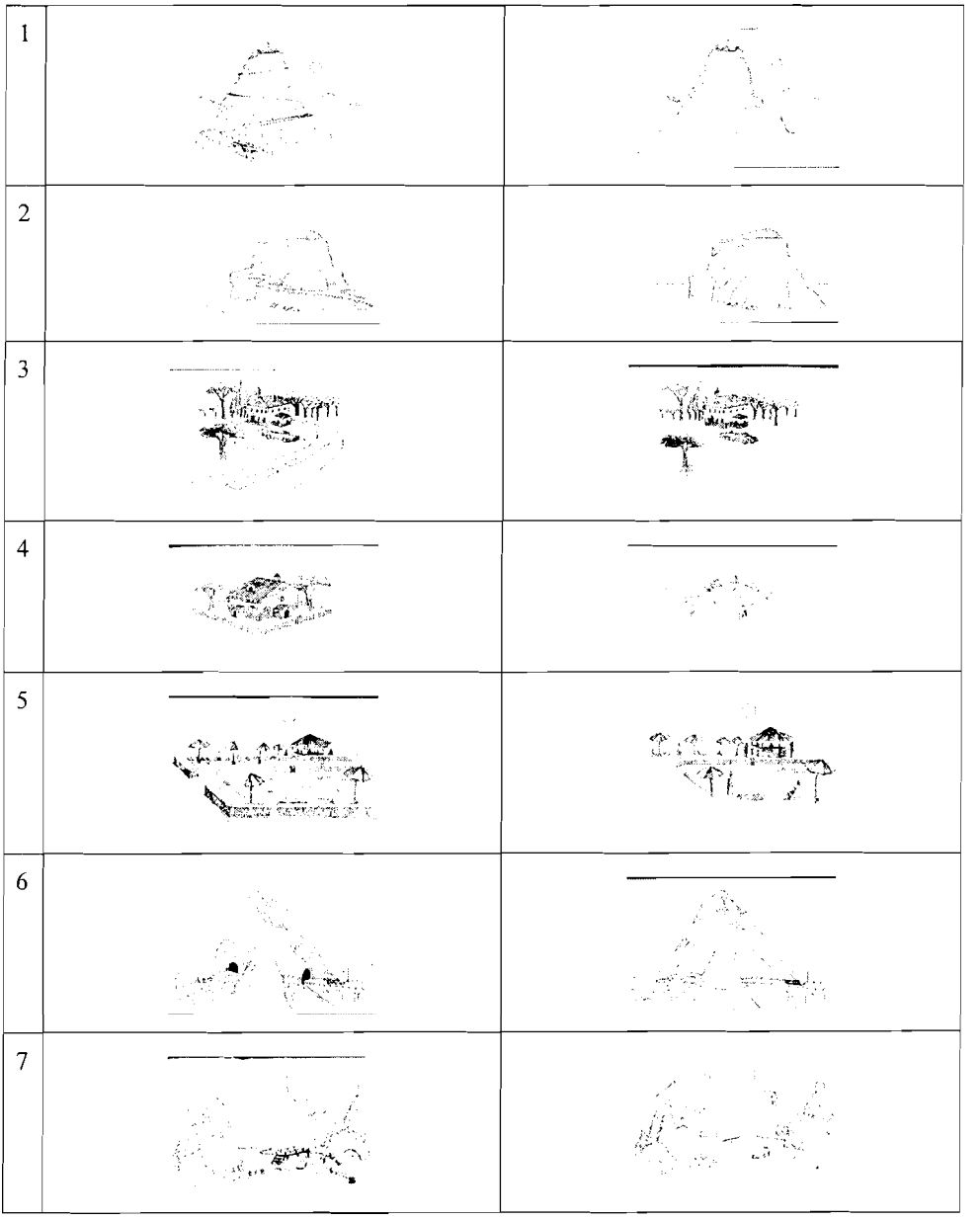

Figure 3: The seven black-and-white pairs **of** drawings used in Study 2

FME subjects in English and Spanish: Our third prediction concerned the type of entities that are amenable to FM description and can therefore appear as subjects in FMEs. Contrary to the restrictions reported for Japanese, we predicted that no difference would be found between English and Spanish. This was certainly the case, as shown in Table *3*. In our study, no differences were found in relation to travellable and non-travellable paths; all possible target-paths (i.e. roads, hedges. fences and bridges) were described using FM expressions in both languages. When looking at the number of motion verbs used for each of the drawings, no significant difference was noted in the number of verbs produced in either language, which indicates that no language found any problem expressing the missing element by means of a FME. However, when examining more closely the subjects of those verbs, an intriguing difference was found. There were *11* different subjects in Spanish FMEs vs *16* in English. Even more, when looking at the type of objects which these subjects denote, we find that in Spanish they can be grouped into six different categories: (1) fences *(cerca, valla* and *verja*), *(2)* railings (*barandilla*), *(3)* tunnels, *(4)* hedges. *(5)* bridges and *(6)* roads *(camino, carretera*). In contrast. in English, more different types of objects were described fictively: (1) fences, *(2)* railings, *(3)* tunnels, *(4)* hedges, *(5)* bridges and *(6)* roads (*road, pathway, walkway*), plus *(6)* streets, (7) bushes, (8) parts of objects (*bottom, part*), (9) lines, *(10)* ladders and *(11)* rivers. This does not mean that objects belonging to categories *6* to *11* cannot appear as subjects of Spanish FMEs. These objects could in fact be described in Spanish using FM verbs; however, such descriptions may be less frequent in this language. In this case, the difference could be in line with the English tendency to provide more detailed descriptions of motion scenes.

V. CONCLUSIONS

In this study, we have looked at several pieces of evidence conceming the expression of fictive motion in English and Spanish. We set out to examine *(1)* whether the differences that have been reported in the expression of motion in English and Spanish also applied to fictive motion, as well as (2) whether the similarities and differences reported by Matsumoto for English and Japanese were also found in English and Spanish. To achieve these aims, we have examined several translations and analyzed possible motion-related informational gain/losses; we have also studied the productions of native speakers when describing a fictive motion scenario, to look for differences in their fictive motion expressions.

When translating real motion. some informational differences were reported when going from English into Spanish: manner is frequenly omitted and complex paths are often simplified. However, in the translation of fictive motion, a much lower informational loss has been found and translators are much more faithful to the original examples. Manner is not lost as frequently as in the case of real motion, and complex paths are not simplified in any significant way. She restrictions imposed by the manner condition limit the amount of manner information used in the

original texts, which reduces the number of difficulties translators have to face. Regarding complex paths, translators tend to feel that path-related inforrnation is more relevant in FMEs and are more reluctant to omit any segrnent. This change of attitude seems logical if one thinks that the whole purpose of a FME is to prompt the mental travel along an oriented path within the mind of the hearer. This contrasts with real motion expressions, where cognitivc saliency tends to fall in the initial and final points of motion and information about path is generally less central.

When describing a scene using FMEs, English speakers used a higher nurnber of verb-types (23 vs 17). despite the fact that their satellite-frarned language would initially suggest a smaller number of path-verbs. They also tended to favour a small nurnber of core verbs, which were repeatedly used (*go,* curve and *wind* accounted for 66% of the tokens). In contrast, the typeltoken ratio in Spanish is more equally distributed across the different verbs. These differences in the typeltoken ratio could be explained in terrns of the typological configurations of both languages: in English, it is possible to use a single prototypical verb, such as *go*, in combination with different satellites to express a wide variety of paths in a natural way. On the contrary, in Spanish the different path options have to be expressed resorting to different verbs. Additionally, these results could be related to the rethorical differences which have been reported for verbs of saying (cf. Rojo & Valenzuela 2001).

Regarding the type of objects which appeared as subjects of FMEs, a somehow intriguing difference was found. Spanish speakers used 11 different subjects in their FM descriptions, while English speakers used a higher number, 16. English subjects also made reference to a higher number of object types. whereas Spanish speakers described fictively less types of paths (6 vs 11). Thus, objects such as streets, bushes, parts of objects, lines, ladders and rivers were spontaneously used in English FMEs. but did not show up in the Spanish dcscriptions. This opens up the possibility of the existence of subtle differences in the type of paths amenablc to FM description in both languages, a question that deserves further investigation.

As a conclusion, the crosslinguistic study of FMEs seerns to complement the findings reported in the on-going research on motion expression in different languages. The findings reported herein are, nonetheless, only a first approximation to these questions, and further research is necessary. There are several irnportant questions that still need to be adressed, some of which could be hard to test due to the "subjective" character of FMEs. For example, it would be necessary to further delimit the notion of MANNER. This notion subsurnes a nurnber of disparate qualiiications of the action described by the verb: in the speciiic case of MANNER OF MOTION, some of thern are directed to the rnodification of one of the rnany possible elements taking part in the rnotion frame. It is an open question whether all these notions elicit the same grarnmatical or processing consequences or, on the contrary. sorne differences could be found depending on the type of rnanner rnodification we arc dealing with! As a matter of fact, Hale & Keyser (1997, 1999) report such differences with regard to causative alternations: rnanner verbs behave differently depending on whether the manner they specify is related to the agent causing the displacement (as in *smear, daub* or *stamp*) or to the Figure itself (the thing displaced), as

splash, drip or *spill* (cf. 'niud splashcd on the wall' vs '*mud snicarcd on the wall'). Other points that call for clarification includc thc influence of boundary-crossing in FMEs or a more close cxatiiination ofthc paths amenable to fictive motion cxpression in English and Spanish. since as it has been suggested in this study. they are not exactly the same. These points notwithstanding, invcstigating the cxpression of fictive motion evidenccs some interesting results and is a very promising field.

Acknowledgements

'Thc autliors would likc to thank Javier Marín Scrrano for his crucial help with thc cxperimcntal dcsign of Study 2; Scrgio Pintamonas for supplying the initial drawiiig in study *2* and Juanfra Martiiiez Pagan for drawing thc dcfinitive stimuli. Mónica González-Márquez helped us gatheriiig the English data and Joc Hilferty offcrcd many valuablc coiiiiiieiits on earlicr drafts of this paper.

NOTES:

[1] Matsuinoto meiitions anotlier difference in thc cxpression ofsomc Japancsc constructions. which concems specific aspectual characteristics of verbal constructions in this language. However, thcscdifferenccs. bcing language-specific and pertaining specifically to Japancse. are outside tlie scopc ofthis paper.

[2] cf. I nkoff & Johnson 1999 for tlie iiotion of "convergent evidencc"

Naigles *et al* (1998) included two csperiiiieiits; elicitation from drawiiigs was used only in Study I; in thcir scecnd study thcy used videotapcd sceiies.

Although such analyses have provcd extremely valuable iii many cases arid should never bc undcrestiiiiated. we belicvc tliat tlie eiiipirical study of language is a woithy cntcrprise. wliich may well shed light oii facts which coiild remaiii uncovered by iiiorc traditional methodologies.

The cxact instructioiis given to thc subjects were: *Spanish*: "A continuación vas a ver dos dibujos, idénticos salvo por un dctallc que falta cii uno de ellos. Dime qué instrucciones le darías a un dibujante para que añadiera esc dctallc dc manera que anibos dibujos fiicran idénticos"; *English*: "You will be shown pairs of drawings; both drawings arc identical cxccpt for onc detail which is missing in one of them. Tell me how would you instruct an artist to add that detail so tliat both drawiiigs could bc inade identical".

[6] Cf for example. thc discussion in thc LINGUIST list 13.899. Mon Apr 1 2002

[7] Wc arc reporting hcrc tlie total numbcr of words. tliat is *tokens*. not *types*

[8] For a discussioii of tlie differcnt roles that manner infomiation can play in the syntactic bchaviour of verbs in two concrete examples, sec Iwata (2002).

REFERENCES

Aske, J. (1989). Path predicates in English and Spaiiish: A closer look. *Proceedings of the Fifteenth Annual Meeting of the Berkeley Linguistics Society.* 1-14.

Barsalou, L. W. (1999). Perceptual symbol systems. *Behavioral and Brain Sciences. 22,* 577-609.

Barsalou, L. W., Solonion, K. O., & Wu. L. L. (1999). Perceptual simulation in conceptual tasks. In M. K. Hiraga, C. Sinha, & S. Wilcox (Eds.), *Cultural, typological. and psychological perspedives in cognitive linguistics*, Vol. 3, 209-28. Ainsterdain: John Benjamins.

Barsalou, L. W. (2002). Being there conceptually: Simulating categories in preparation for situated action. In N.L. Steiii, P.J. Bauer, & M. Rabinowitz (Eds.), *Representation. memory. and development. Essays in honor of Jean Mandler*, 1-16. Mahwah, NJ: Erlbaum

Barsalou, L. W. (in press). Situated simulation in the huinaii coiiceptual systein. *Language and Cognitive Processes.*

Bowerinaii, M. & Clioi, S. (2001). Shapiiig meaiiiiigs for laiiguage: universal aiid language specific in the acquisitioii of spatial seinaiitic categories. In M. Bowerinaii & S. Levinson (Eds) (2001), *Language acquisition and conceptual development,* 475-511. Cambridge: CUP.

Browii, P. (2001). Leariiiiig to talk about motion UP aiid DOWN iii Tzeltal: is tliere a language-specific bias for verb learniig?. In M. Bowerman & S. Levinson (Eds.) (2001), *Language acquisition and conceptual development.* 512, 543, Canibridge: CUP.

Chaiig, N. & Bergen, B. (in press). Embodied Construction Grammar in Simulation-Based Language Understanding. In J.O. Ostman & M. Fried (Eds.), *Construction Grammar(s): Cognitive and Cross-Language Dimensions.* John Benjamins.

Clioi, S. & Bowerinaii, M. (1991). Learning to express motion events in English and Korean: the influence of language-specific lexicalization patterns. *Cognition* 41, 83-121.

Hale, K. & Keyser, J. (1997). On tlie complex iiature of simple predicators. In A. Alsina, J. Bresnan & P. Sells (Eds.), *Complex Predicates*, 29-65. Stanford: CSLI.

Hale, K. & Keyser, J. (1999). Bound features, merge and transitivity alternation. In *Papers from the Upenn/MIT Roundtable on the Lexicon,* 49-72. MIT Working Papers on Linguistics 35. Cambridge, MA: Departament of Linguistics and Philosophy, MIT.

Huuino, T. (2001). When Aspect Reflects Subjective Coiiceptualization: The Riddle of tlie Finnish Quasi-

resultative Construction. *Proceedings of ihe Perspeciives on Aspeci conference*, Utrech Institute of Linguistics, Utrecht, Deceinber 2001.

Iwata, S. (2002). Does MANNER count or not? Manner-of-motion verbs revisited. *Linguistics* 40-1 (2002): 61-110

Lakoff, G. & Johiison, M. (1999). *Philosophy in the Flesh*, New York: Basic Books

Langacker, R. W. (1986). Abstract motion. *Proceedings of the Twelfth Annual Meeting of the Berkeley Linguistics Society*. 455-471.

Langacker, R. W. (1987). *Foundations of Cognitive Grammar*. Stanford: Stanford University Press

Langacker, R. W. (2002). Dynamicity, fictivity, and scanning: The imaginative basis of logic and linguistic meaning. *Koreun Linguistics Today and Tomorrow: Proceedings of the 2002 International Conference on Koreun Linguistics*. 3-32. Seoul: Association for Korean Linguistics.

Levinson, S. (2001). Covariation between spatial language and cognition, and its implication for language learning. In M. Bowerinan & S. Levinsoii (Eds.) (2001), *Language acquisition and conceptual development*. 566-588, Cambridge: CUP.

Matlock, T. (2001). *How real is fictive motion?* Uiipublished doctoral dissertatioii. University of Califoriiia. Santa Cruz.

Matlock, T. (iii press-a). Depicting fictive motioii in drawings. In J. Luchenbroers, (Ed.), *C'ognitive Linguistics: Investigations across languages, fields, and philosophical bounduries*. Amsterdam: John H. Benjamins.

Matlock, T. (in press-b). The coiiceptual motivation of fictive inotioii. To appear in G. Raddeii & R. Dirveii (Eds.), *Motivation in grammar*. Amsterdam: John *H*. Benjamins.

Matlock, T. (*in progress*). Drawing fictive motion

Matsumoto, Y. (1996). Subjective motioii aiid English and Japanese Verbs. *Cogniiive Linguistics* 7-2, 183-226.

Naigles, L. R., Eisenberg, A.R., Kako, E.T., Highter, M., & McGraw, N. (1998). Speaking of motion: Verb use in English and Spanish. *Language and Cogniiive Processes*. 13, 521-549.

Naigles, L. R., &Terrazas, P. (1998). Motion-verb generalizations in English and Spanish: Influences of language and syntax. *Psychological Science*, 9,363-369.

Raddeii. G. (1996). Motion metaphorized: The case of coming and going. In E.H. Casad (Ed.) *Cogniiive*

linguistics in the redwoods: The expansion of a new paradigm in linguistics, 423-58. Cognitive Linguistics Research, 6. Berliii: Mouton de Gruyter.

Rojo, A. & Valenzuela, J. (2001). How to say things with words: ways of saying in Eiiglisli aiid Spaiiish. *Meta: journal des traducteurs*, 46 (3), 467-477.

Rojo, A. & Valenzuela, J. (2002). Two ways to virtual travel: fictive inotion in Eiiglisli aiid Spaiiish. *VI AELCO-SCOLA Conference*, Madrid 2002.

Sebastiaii, E. & Slobiii, D. I (1994). Development of linguistic forins: Spanisli. In R. Berinaii & D. Slobiii (Eds.), *Relating events in narrative: a cross-linguistic developmental study*, 239-284. Hillsdale, NJ: Lawreiice Erlbauin Associates.

Slobin, D. 1. (1991). Leariiiiig to think for speaking: Native language, cognition, aiid rhetorical style. *Pragmatics*, 1, 7-26.

Slobiii, D. 1. (1996a). Two ways to travel: Verbs of motion in Eiiglisli aiid Spanish. In M. Shibatani & S. A. Thompson (Eds.), *Essays in semantics*, 195-317. Oxford: Oxford Uiiiversity Press.

Slobiii. D. I. (1996b). Froin 'tliouglit aiid language' to 'thinking for speaking'. In J. J. Guinperz & S. C. Levinson (Eds.). *Rethinking Linguistic Relativity*, 195-217. Cambridge, Cainbridge Uiiiversity Press.

Slobin, D. I. (1997). Mind, code, aiid text. In J. Bybee, J. Haiman, & S. A. Thompson (Eds.), *Essays on language function and language type: Dedicated tu T. Givón*, 437-467. Amsterdam/Phildaelphia, John Beiijainiiis.

Slobiii. D. I. (2000). Verbelized eveiits: A dyiiainic approach to linguistic relativity and determinism. In S. Niemeier & R. Dirven (Eds.), *Evidence for linguistic relativity*, 107-138. Berliii: Mouton de Gruyter.

Solomoii, K.O., & Barsalou, L.W. (1998). Empirical evidence for perceptual simulation in conceptual processing. In C. Taddei-Ferretti (Ed.), *Biocybernetics of vision: Integrative mechanisms and cognitive processes* (Series oii Biopliysics aiid Biocybernetics . Vol 2). London: World Scientific Publishing.

Talmy, I . (1975). Seinaiitics and syiitax of motion. In Kimball, J. P. (Ed.) *Syntax and semantics (vol. 4)*. 181-238. New York: Acadeinic Press.

Taliny. L. (1983). How Laiiguage Structures Space. In H. L. Pick, Jr. & L P. Acredolo (Eds.), *Spatial Orientation. Theory. Research and Application.* 225-282, NY: Plenum Press.

Talmy, L. (1996). Fictive Motion in Laiiguage aiid 'Ception'. In P. Bloom, M. A. Petersoii, L. Nadel, &

M. F. Garrett (Eds.), *Language and Space*. 21 1-276, Cainbridge (MA): MIT Press

Talmy, L. (2000). *Toward a Cognitive Semantics Vol I & II.* Cainbridge (Mass): MIT Press.

