L1 Conceptual Transfer in the Acquisition of L2 Motion Events in Spanish and English: The Thinking-for-Speaking Hypothesis

Abstract: This research paper takes and builds upon Slobin’s (1987) thinking-for-speaking hypothesis as a basis for exploring the notion of conceptual transfer from the L1 in the acquisition and production of motion events in an L2. This is achieved by investigating the extent to which L2 transfer presents itself in the expression of motion in inverse translation tasks carried out by 27 native English speaking learners of Spanish and 32 native Spanish speaking learners of English. The nature of this transfer is then investigated to establish whether or not it appears to be conceptual. The tasks presented to participants contained items based on Talmy’s (1985) research on cross-linguistic lexicalisation patterns in the expression of motion events, which, as Slobin (1987, 1996) later proposes, appear to dictate the conceptualisation of motion events in a language. Results reveal that cognitive parameters in the participants’ native language affected their performance in the production of motion events in their second language, in accord with Slobin’s (1987) thinking-for-speaking hypothesis. Finally, the study concludes with a summary of these results.

Keywords: thinking-for-speaking, verb conflation patterns, language typology, second language acquisition, semantics.

1 Introduction

A language learner’s first language (henceforth, L1) can be as much of a hindrance as it is a help in the acquisition of a second or foreign language (henceforth, L2). On the one hand, the L1 can be beneficial in the process of acquiring L2 grammatical properties which are also present in the L1. However, language learners may inadvertently transfer structures or properties from their L1 which are in fact not target-like or ungrammatical in the L2. This can be especially prevalent in the acquisition of an L2’s semantic properties.

Semantics, the study of the linguistic representation of meaning, is considered to sit “squarely at the intersection between language and cognition” (Wagner 2010: 519), intrinsically linked with the expression of conceptual structures as shaped by language. Several linguists (e.g., Slobin 1987, Talmy 2000, and Cadierno 2008, among others) argue that the transfer of these conceptual structures occurs in L2 production where there are differences in cognitive parameters in the L1 and the L2. The present study examines the arguments put forward by Slobin (1987), Talmy (2000) and Cadierno (2008), and aims to provide further evidence supporting the hypotheses outlined in previous research on the issue of L1 to L2 conceptual transfer. This is achieved by investigating the extent to which native speakers of languages (English and Spanish) which belong to two different typological categories, as will be discussed below, exhibit signs of transfer from their respective L1s in the expression of motion events in the L2. More specifically, this study focuses on the notion of conceptual transfer from the L1 to the L2 in the acquisition process, as outlined in Slobin’s
thinking-for-speaking hypothesis and subsequent developments and expansions of this hypothesis. In Slobin’s (1987) thinking-for-speaking hypothesis, not only is it argued that language and thought are intrinsically linked, with each language providing its native speakers with a unique conceptualisation of the world, but also it is proposed that any given L2 is subject to conceptual transfer from a learner’s L1 due to the established conceptual parameters in each individual language. This study hopes to contribute towards understanding a controversial issue in second language acquisition (henceforth, SLA). The research questions pursued in this study are as follows:

1. Do participants exhibit signs of L1 transfer in motion event expressions constructed in their L2?
2. If so, does this transfer appear to be conceptual in nature, providing evidence for the thinking-for-speaking hypothesis?

1.1 Literature Review

Talmy (1985) proposes the idea that all of the world’s languages fit into typological categories depending on how motion events are conflated in the Grammar of the respective languages. Slobin (1987, 1996) later suggests that these typological categories dictate the conceptualisation of motion events in a particular language. More specifically, in some languages (e.g., Spanish) motion events which involve the figure crossing a boundary are both conceptualised and constructed differently from motion events which involve a straight trajectory with no boundaries crossed. Consider the following examples.

(a) Entró corriendo en la casa.
    She ran into the house.
(b) Corrió hasta la casa.
    She ran up to the house.

In example (a), the figure enters the house, crossing a clear boundary between the exterior and the interior. Meanwhile, in example (b), the figure runs as far as the house and stops before crossing the boundary. In Spanish, and in languages belonging to the same typological category, these two types of motion events are conceptualised as distinct from each other and are therefore constructed differently in the grammar of the languages. On the other hand, this distinction does not exist in languages (e.g., English) belonging to different typological categories. As can be seen from the English translations of examples (a) and (b) above, the two motion events are constructed identically. Whether or not the figure crosses a boundary is of no significance in English, or in languages belonging to the same typological category, and as such a grammatical distinction is not made. Accordingly, it has been argued that individuals learning a language belonging to a different typological category to their L1 will see a great deal of conceptual transfer in the production of L2 motion events (Slobin ibid). In addition, Slobin (1996b: 91) states that “each [language] is a subjective orientation to the world of human experience, and this orientation affects the way in which we think while we are speaking”.

Slobin’s (1987) thinking-for-speaking hypothesis has been readily accepted and expanded upon by many contemporary L2 researchers (e.g., Cadierno 2008, Bylund & Jarvis 2011, among others). An example of a contemporary researcher whose studies have found evidence in favour of thinking-for-speaking is Stam (2014). From 1997 to 2011, Stam (2014) followed a Mexican Spanish speaking learner of English as she progressed in her L2 acquisition process. It was found that in the first decade of acquisition (1997-2006), the learner continued to express manner in motion events using the Spanish thinking-for-speaking pattern (Stam 2014: 1884), i.e., as a satellite gerundive constituent instead of in the main verb, as seen in example (a) above (‘entró corriendo’). Only in the last third of the period in which her language learning process was observed and analysed (2006-2011) did she begin to acquire the target-like expression of manner in English. However, in a study conducted by Stam in 2010 on the participant’s gestures when describing motion events, Stam (2014) observed that the learner was unable to express boundary-crossing motion
events in a single gesture and that she instead produced a “separate gesture for the endpoint” (Stam 2014: 1883), in accord with the Spanish conceptualisation and subsequent expression of crossing a boundary in a motion event (see example (a)). This discovery provides further evidence of thinking-for-speaking affecting the learner’s acquisition of English motion events.

Thinking-for-speaking is nevertheless largely discredited by those favouring a generative approach to linguistics and language acquisition. For instance, Montrul (2004: 11) describes the cognitive nativist approach to language acquisition, as adopted by Slobin (1987), as “bottom-up and discontinuous”, suffering from “a number of limitations”. White (2003), meanwhile, provides a comprehensive analysis of Talmy’s (1985) typological categories in a SLA context, yet attributes any acquisition difficulties to insufficient positive evidence from the L2 and Universal Grammar constrained lexical entries. The operation of L1 transfer is also widely disputed, the notion itself often being dismissed as an outdated “behaviourist concept” (Odlin 1989: 22), while researchers such as Dulay and Burt (1974) declare the role of the L1 redundant, arguing instead that it is the L2 which “guides the acquisition process” (Dulay and Burt 1974 cited in Odlin 1989: 22). In contrast, Selinker’s (1972) Interlanguage Hypothesis does acknowledge native language transfer as a factor which shapes learner language, although it does not investigate the exact nature of this transfer.

This study both investigates L1 transfer as a significant factor in the production of errors and the nature of what is transferred, ultimately aiming to build upon research (e.g., Stam 2014, Ziyan 2013) which provides evidence in favour of Slobin (1987) et al.’s cognitive approach to second language acquisition. As such, it does not adopt the same generative approach as White (2003), Montrul (2004), or Dulay and Burt (1974). Rather, a balanced overview of language acquisition theory requires the discussion of generative approaches as well as the cognitive approach. The following section provides both this discussion and the theoretical framework around which the study is based.

2 Theoretical Framework

2.1 The role of the L1 in language acquisition

An in-depth analysis of the mechanisms of language acquisition lies beyond the scope of this study; instead I shall provide a concise overview of acquisition theory, highlighting theories which discuss the extent of L1 involvement in L2 learning.

In contemporary academia, the most unanimously accepted acquisition theories are those arguing in favour of the universality of language acquisition (Bley-Vroman 1990: 4), that is, theoretical frameworks which assume the existence of universal linguistic principles. Accordingly, it is supposed that children are able to acquire their L1 by applying linguistic experience obtained from exposure to external language input (i.e., parents, carers, and siblings) to an internal framework, known as Universal Grammar (henceforth, UG), which imparts an innate knowledge of the universal linguistic principles dictating natural language (White 2003: 1-2). The argument for a biological basis in L1 acquisition is supported by the observation of largely uniform developmental stages and sequences across languages and cultures (White 2003: 3). Research has shown that second language learners pass through similar developmental sequences, and even produce some of the same types of errors as first language learners. Furthermore, it has been observed that there are certain errors which emerge in the process of acquiring a second language that are uniform no matter the nature of the L1 or the L2 (Odlin 1989: 19). Therefore, many second language researchers (e.g., Odlin 1989: 21) believe that all language acquisition processes are guided by “a set of fixed developmental sequences” which reflect an innate human capacity to acquire language.

Many SLA theories ascribe importance to the role of the L1 as well as to these linguistic universals in the acquisition of an L2, arguing that the L1 serves as the initial state while learners also retain access to UG. For example, the Full Transfer Full Access hypothesis (FTFA) argues that L2 learners “adopt the grammar” of their mother tongue and restructure it to meet the requirements of the L2 grammar (White 2003: 61), while UG is utilised when the L1 grammar does not suffice. On the other hand, Bley-Vroman’s (1990) Fundamental
Difference hypothesis argues that adult language learners do not retain access to UG, proposing instead that they construct a “surrogate” UG from the knowledge they have of their mother tongue by “sifting” relevant features from the L1 (Bley-Vroman 1990: 16). Researchers such as Dulay and Burt (1974), however, argue against the role of the L1, stating that “transfer only plays a minimal role in the acquisition of grammar” (Odlin 1989: 21), and that “universal cognitive mechanisms” serve as a foundation for L2 acquisition and organisation (Odlin cit. Dulay & Burt 1974: 52).

Regarding the role of the L1, another important SLA theory to consider is the Interlanguage Hypothesis. The Interlanguage Hypothesis (Selinker 1972) takes a different stance from the above hypotheses, not only fundamentally denying the existence of any correlation between child language acquisition and L2 acquisition, but also acknowledging native language transfer as key in the production of L2 learner language and its shortcomings. Selinker (1972) proposes the existence of three linguistic systems in the SLA process: the native language, the target language and a third intermediary system known as the interlanguage (Tarone 2006: 747). This hypothesis suggests that interlanguage is a “latent psychological structure” (Tarone 2006: 748) which aids the SLA process for adult learners as a substitute for the language acquisition device (LAD), access to which is not retained beyond puberty. This linguistic system is assumed to be constructed and utilised by adult foreign language learners after they have started to move away from their native language but have not yet arrived at fully successful target language production. Interlanguage, however, is thought to be susceptible to permanent cessation of development at any point in the language acquisition process, a concept known as “fossilisation” (Tarone 2006: 747). Learner language, if fossilised, consequently falls short of “full identity” in the target language (Tarone ibid). This notion is employed by the Interlanguage Hypothesis and its supporters as an explanation for learner errors in L2 development and production.

The Interlanguage Hypothesis came about as an attempt to explain errors which could not be explained by contrastive analysts whose research focused on learner language Error Analysis (Tarone 2006: 747). Researchers in this field attempted to explain errors in the speech and writing of second language learners solely through the presence of L1 transfer, but in all of the data collected in their research there was “residue” of errors which seemed to be caused by something other than L1 transfer, contrary to their predictions (Tarone 2006: 748). Fossilisation is one theory which would explain the existence of this “residue”. The Interlanguage Hypothesis does nevertheless acknowledge L1 transfer as a factor in the shaping of interlanguage and, as such, the appearance of errors in the L2. Selinker (1972) hypothesises that there are five psycholinguistic structures which shape interlanguage: native language transfer, the overgeneralisation of target language rules, the transfer of training, strategies of communication, and strategies of learning (Tarone 2006: 748). Thus, among other factors, L1 is indeed considered to play a part in the development of learner language produced by adult L2 learners. What is not discussed in Selinker’s (1972) original hypothesis, however, is what exactly transfers from the native language in the development of a learner’s interlanguage.

This study identifies several areas in which the above theories could be complemented. Firstly, it is proposed that L1 transfer is a significant factor affecting fully successful L2 production. Secondly, it argues that the nature of this transfer is, to an extent, conceptual rather than grammatical, as is argued by generative linguists such as White (2003) and Dulay and Burt (1974). However, here we do not aim to provide a comprehensive explanation of every single error produced by second language learners; rather, our aim is to build upon previous research and to provide evidence supporting Slobin’s (1987) thinking-for-speaking hypothesis as a significant factor in L2 error production.

### 2.2 Language typology and lexicalisation patterns

It is first necessary to discuss Leonard Talmy’s (1985) cognitive semantics approach to the typology of language. Talmy (1985) investigates the existence of distinct typological patterns “in which the conceptual structure of motion events is linguistically encoded in different languages” (Talmy 1985 cited in Cadierno 2008: 242). This framework distinguishes basic motion events from associated co-events, the former
consisting of four components: Figure, Ground, Path, and Motion, and the latter including Manner and Cause. Talmy (1985) argues, with these components in mind, that different languages “package the semantic components of a motion event in different ways” (Cadierno 2008: 243). According to Talmy, there are three main typological patterns in the world’s languages. The following definitions are adapted from Talmy’s (1985) original work on cross-linguistic lexicalisation patterns. The present study focuses on English and Spanish, which respectively belong to the satellite-framed and verb-framed typological categories, as outlined below:

1. **Motion + Manner/Cause**: languages with this typological structure are also known as “satellite-framed languages” (S-languages) and express both Motion and Manner, or Cause, in the verb, while Path is expressed through locative elements, or satellites, such as adverbs and prepositions. English, along with all branches of the Indo-European language family except the Romance languages, is satellite framed.

2. **Motion + Path**: this involves the verb root expressing both Motion and Path, while Manner would be expressed via an adverb or gerundive constituent. Languages of this typological framework are known as “verb-framed languages” (V-languages) and include not only Spanish, but all Romance languages, as well as families such as the Semitic and Polynesian languages.

An example of a satellite-framed motion event construction in English is the following sentence:

a) *She ran out of the house.*

In this sentence, the verb “to run” conflates motion with manner, while the path of the motion event is expressed in with satellite locative elements, in this case the adverb “out” plus the preposition “of”. Meanwhile, the same motion event is expressed in Spanish as follows:

b) *Salió de la casa corriendo* (alternatively, *Salió corriendo de la casa*).

In accord with the verb-framed conflation pattern, **motion** and **path** are conflated in the verb *salir*, ‘to leave’, while information about **manner** is with the verb *correr*, ‘to run’, in the gerund form. Literally translated to English, this would be *she left the house* [by] *running*. Note that the gerund constituent (*corriendo* in the example above) can sit either directly after the verb of motion or at the end of the phrase. Talmy (1985) also observes that Spanish appears to have a split system of verb conflation in the lexicalisation of motion events whereas English follows the same pattern. Consider the following examples (from Cadierno 2008: 244):

c) She ran up to the house.
   Corrió hasta la casa.

d) She ran out of the house.
   Salió de la casa corriendo.

In example (c), the Spanish pattern mimics English, the motion and manner conflated in the verb *correr* ‘to run’ and the path expressed in the satellite locative *hasta*, ‘up to’. However, example (d) demonstrates a distinct structure which clearly illustrates the contrasting V-framed and S-framed lexicalisation patterns, with the verb ‘salir’ simultaneously expressing the motion and the path of the event, and manner expressed via the verb *correr*, ‘to run’, conjugated in the gerund form, ‘corriendo’.

In a similar vein, Aske (1989) notes that English allows verbs expressing manner of motion to appear alongside **locative** phrases, which predicate a location of the whole preposition (i.e., *up to the house*), and **telic** phrases, which predicate an end-state of the figure, while Spanish only permits the former (Aske 1989, Cadierno 2008: 244). Slobin and Hoiting (1994) subsequently observe that Aske’s (1989) telic phrases always involve paths in which the figure crosses a boundary. In accord with this observation, it appears that
V-languages operate a further constraint in the lexicalisation of motion events than what Talmy’s (1985) original model suggests, specifically that the expression of both motion and manner cannot be combined in the verb in boundary-crossing motion events (Cadierno 2008: 255). Slobin (1997) argues that when the path in a motion event involves crossing a boundary, this is perceived in V-languages as a change of state, and that this state change requires an independent predicate in these languages (Slobin 1997: 441). This is where the distinct lexicalisation patterns of V-framed and S-framed languages can be observed. Where English maintains the same pattern whether a phrase is locative or telic, Spanish expresses changes of state in the main verb while the manner or cause is expressed in a subordinate fashion (Slobin 1997 cit. Aske 1989, Talmy 1991).

Following on from Slobin’s (1997) observation that boundary-crossing situations are perceived as a change of state in Spanish, this research suggests that a language’s lexicalisation patterns may have an effect on how its native speakers perceive the very nature of the motion event (Slobin 1987, 1997; Cadierno 2004, 2006). Following these researchers, it can be argued that native speakers of S-languages learning an L2 V-language, and vice versa, transfer conceptual structures from the L1 to the L2. As a result, they encounter a learnability problem in the acquisition of motion events because one language’s conceptualisation of boundary-crossing situations is sharply distinct from the other language (Slobin 1996a, 1996b, 1997).

2.3 Thinking-for-speaking

In the early 19th and 20th centuries, a number of linguists formed hypotheses arguing that language and thought are intrinsically linked. For instance, von Humboldt (1836) states that thought and language are inseparable and that each linguistic community embodies a distinct world view (Humboldt [1836] 1988). A century later, Whorf (1940) echoes this view, proposing that speakers of different languages are directed by the “grammars” of their respective languages towards diverse evaluations of “externally similar acts of observation”, hence arriving at “somewhat different views of the world” (Whorf [1940a] 1956: 221).

Slobin’s (1985) thinking-for-speaking hypothesis offers a developed and more contemporary perspective on the relationship between language and “world view” by examining the effects that it may have on the acquisition of a first and second language. The fundamental idea in Slobin’s (1987) hypothesis is that “the language or languages that we learn in childhood are not neutral coding systems of an objective reality”. It proposes, instead, that language is a subjective framework which has an effect on “the way in which we think while we are speaking” (Slobin 1996b: 91). Slobin (1987: 436) examines, then, how children acquiring distinct languages “begin to talk about experience”. Slobin’s (1987) study discusses data from 3 year old speakers of two S-framed languages (English and German) and two V-framed languages (Spanish and Hebrew) from a sample in which narratives were elicited from the participants in order to examine their production of motion events. The results from this study were consistent with his observation that language may affect thought, and vice versa. More specifically, children with S-language mother tongues produced “rich independent marking of path” (Slobin 1987: 441) (e.g., ‘fell out’, ‘fell down’, ‘flying after’) as well as an abundance of verbs of manner and elaborate path-marking satellites in their description of images depicting a motion event (e.g., ‘tumble down’, ‘off over a cliff into the water’) (Slobin 1987: 441). In contrast, Spanish and Hebrew speakers produced simple verbs conflating motion and path, with only one elaboration of path and scarce attempts to describe manner of motion (e.g., ‘he fell’, ‘they chased’). According to Slobin (1987: 439), these results clearly suggest “types of thinking for speaking”, as it appeared that speakers were not inclined to express any more knowledge than what fitted the “available distinctions” in the respective languages.

Slobin (1997: 438) also investigates English to Spanish literary translation, observing that native Spanish speaking translators choose to avoid expressing manner and, instead, apply preference solely to trajectory when translating a motion event which encodes path and manner in English. This is illustrated below with an example from Slobin’s (1997) research on English to Spanish literary translation:
As Slobin (1997: 438) observes, the Spanish translations of the motion events “encode directionality”, while any description of manner present in the original English text was not translated, as in Spanish there is no straightforward way of attaching a manner component to all motion events in the extract (Slobin 1997: 438). It is possible to draw parallels here with Slobin’s (1987) research on the expression of tense and aspect in two languages which mark progressive aspect, English and Spanish, and two which lack the grammatical means to do so, German and Hebrew. In Slobin’s (1987) study, native speakers of these languages were asked to describe an image which depicted a punctual and a durative event. The results showed that, although some speakers of the languages which did not allow marking progressive aspect were nevertheless aware that there existed some difference between a punctual event and a durative event, the grammatical coding of the native language for the most part overruled speakers’ capacity to perceive this distinction. Slobin’s (1987) research has shown that this also seems to be the case for professional translators working between an S-language and a V-language.

Let us now consider how thinking-for-speaking can affect L2 acquisition for adult learners who are acquiring a language from a different typological category to their mother tongue. Slobin (1996b: 89, 91) argues that grammatical categories involving concepts which are not “evident to the non-linguistic mind and eye” are “exceptionally resistant to restructuring” in adult SLA. This would suggest that, for native English speakers, perceiving motion events both as boundary-crossing and as changes of state is inevitably problematic, since neither of these concepts is necessarily evident to the “non-linguistic eye” according to English lexicalisation patterns. It can be assumed, therefore, that a target-like production of motion events where English is the L1 and Spanish the L2 proves difficult to achieve and is likely subject to extensive conceptual transfer. It can also be assumed that it is equally difficult for native speakers of Spanish to express boundary-crossing motion events in English. Slobin's (1987, 1996, 1997) research suggests that, for native Spanish speakers, the nature of their L1 means that they are unaware that the distinction between telic and locative phrases of motion does not exist in English. Indeed, Stam's (2014) analysis of the participants’ use of gestures when describing boundary-crossing motion events is evidence of this, and also supports Slobin's (1996b: 91) argument that certain conceptually influenced grammatical categories are “exceptionally resistant to restructuring”.

Slobin’s (1987, 1996, 1997) research reveals strong evidence that the link between language and thought exists, even in linguistic situations outside of language acquisition. Stam’s (2014) study is one example of contemporary research which provides strong evidence for thinking-for-speaking. Another example is a study performed by Ziyi (2013) on the use of additional expressions of manner in motion events by Chinese learners of English as a Foreign Language (henceforth EFL). The study required participants to describe stories involving a lot of movement, a series of comics, in English. Data collected from native Chinese-speaking participants in Ziyi’s (2013) study, speakers of a satellite-framed language, was compared with data from native French speaking EFL learners, whose L1, as a member of the Romance family, is a verb-framed language. It was ultimately found that the Manner component of motion events was much more readily expressed by the Chinese participants than by the French speaking participants (Ziyi 2013: 235), a result which validates both Talmy’s (1985) typological categories and Slobin’s (1987) proposal that these categories dictate second language thinking-for-speaking.

Ultimately, the present study aims to build upon research carried out by contemporary linguists such as Stam (2014) and Ziyi (2013) and to provide further evidence supporting the thinking-for-speaking hypothesis and the effects it may have on L2 acquisition and production. In order to achieve this, it has been necessary to perform a study to ascertain the extent to which conceptual transfer presents itself in the production of motion events by two groups of L2 learners acquiring a L2 belonging to a different typological category from their native language: a group of English speaking learners of Spanish, and a group of Spanish speaking learners of English.
3 Methodology

3.1 The sample

The L1 English sample (Group A) included 27 native English speaking students studying Spanish at Newcastle University. Their mean age was 20 years old. Meanwhile, the L1 Spanish sample (Group B) consisted of 32 native speakers of Spanish, students at a Cambridge Exam preparation centre in northern Spain. The mean age of the Group B participants was 19 years.

Participants’ proficiency levels in both groups varied from B1 (intermediate) to C1 (advanced) according to the Common European Framework Reference (CEFR). However, these levels do not serve as an independent variable in the study as it was found that participants at all levels in both groups produced near identical errors in the translation of motion events, both in terms of the number of errors as well as the type of error (see Section 4 for more details).

3.2 Procedure

Several studies (e.g., Slobin 1987; Stam 2014; Zinyan 2013) have investigated thinking-for-speaking in a second language by collecting qualitative data. More specifically, participants in such studies were provided with a comic or storyboard involving motion events and asked to describe what was happening in each frame. Their utterances were recorded and their motion event expressions analysed to establish how they were constructed. In contrast, our study gathered quantitative data from participants. Specifically, the participants were provided with an inverse translation task, the results of which were grouped into three categories (see Section 4) and the percentages calculated according to the number of responses in each category. This will provide a new angle on L2 motion event expression error analysis.

In this task participants had to translate ten sentences from English to Spanish (Group A), or from Spanish to English (Group B), depending on participants’ L1 (see Appendices A and B, respectively). The tasks were carried out in untimed private study environments. In each inverse translation task, five of the sentences to be translated were based on the phrases used in Talmy’s (1985) study, and were designed to test participants’ ability to construct motion events in their respective L2s.

The remaining five items were distractors. Labov’s (1972: 209) Observer’s Paradox states that “the aim of linguistic research in the community must be to find out how people talk when they are not being systematically observed; yet we can only obtain these data by systematic observation”. As a solution to this paradox, Labov (1972: 92) suggests the use of “various devices which divert attention away from speech” in order to ensure natural speech production by participants. While Labov’s (1972) proposal refers to the observation and analysis of spoken language, as far as the research questions of this study are concerned, it can also be applicable to the production of written language. As a study investigating the transfer of cognitively influenced linguistic behaviour from the L1 to the L2, our investigation aims to elicit the most natural and instinctive responses possible from participants. Therefore, here we assume, according to Labov’s (1972) Observers’ Paradox, that participants, if aware of exactly what they are being tested on, will not construct phrases as naturally as they would in an unobserved L2 environment. That is, if a native English speaking participant becomes aware during the course of the translation task that the production of motion event phrases is being tested, the learner may produce linguistic constructions distinct to those which may be produced naturally in a social, non-academic environment. Therefore, the distractor items in Group A’s translation task were purposely designed to direct participants’ attention towards prepositions, since a native English speaker instinctively constructs motion events with prepositions and other satellites. Meanwhile, the distractor items in Group B’s translation task were designed to direct attention towards gerundive constituents rather than prepositions or satellites, as in Spanish it is the gerund which is instinctively used by L1 speakers to include additional information in the expression of the motion events being discussed and explored.
Some of the responses to these distractor items, particularly those produced by participants in Group A, also contributed useful information to the research, as will be discussed in Section 4.1. In addition, participants were made aware of the importance of eliciting instinctive responses to the language task and refrained from using dictionaries or online machine translators, since doing so would have jeopardised our results. Participation in the present study was entirely voluntary and completely anonymous for both groups.

3.3 Materials

The motion event phrases to be translated by Group A were as follows. The target-like translations, verified in advance by two native Spanish speaking language teachers, are provided below along with literal translations of the Spanish constructions, marked with an asterisk. All of these phrases are adapted from Talmy (1985). As explained in section 2.2, in all Spanish sentences it is possible for the gerundive constituent to be placed at the end of the phrase or in between the verb and its argument, e.g., Salió de la casa corriendo/Salió corriendo de la casa.

a) She ran out of the house.
Salió de la casa corriendo.
*She left (exited) the house [by] running.

b) The boat floated across the river.
La barca cruzó el río flotando.
*The boat crossed the river [by] floating.

c) The butterfly flew into the room.
La mariposa entró en la habitación volando.
*The butterfly entered the room [by] flying.

d) They ran back down into the basement.
Volvieron al sótano corriendo.
*They returned to the basement [by] running.

OR Bajaron al sótano corriendo
*They went down (descended) into the basement [by] running.¹

e) The balloon floated up the chimney.
El globo subió por la chimenea flotando.
*The balloon went up (ascended) the chimney [by] floating.

The translation task provided to Group B’s native Spanish speaking participants also included the above five items (a-e) in Spanish to be translated to English (see Appendix B). Meanwhile, below are the distractor phrases included in the translation task given to Group A.

f) He fell in love with her.
g) They were worried about their mother.
h) I need to think about it.
i) This drink is for your mother.
j) I dreamt about her last night.

¹ This sentence has two possible translations since in English the construction expresses the act of returning to the basement and doing so in a downwards motion. While it is implicit that entering a basement would involve travelling in a downwards motion, therefore rendering bajar (to descend) redundant, both responses are acceptable.
As discussed above, each of these distractor items directs the native English speaking participants’ attention towards the prepositions in each sentence. Meanwhile, the distractor items provided in Group B’s translation task were as follows and, as previously mentioned, influenced participants to focus on the gerundive constituents (highlighted in bold) in the sentences to be translated. The target-like English translations are also provided.

k) Pasé el día leyendo el libro que me habías prestado.
   I spent the day reading the book you lent me.

l) Voy mejorando mi nivel de inglés.
I am improving my level of English.

m) Está buscando sus llaves.
   He/She is looking for his/her keys.

n) Estudiando, el examen nos saldrá bien.
   If we study, the exam will go well.

o) Quiero mejorar mi nivel de inglés, por eso sigo practicándolo.
   I want to improve my level of English, so I keep on practising it.

4 Results and discussion

The type of translations elicited from participants for the motion event items was split into three main categories for each Group before calculating the average percentage of responses in each category (see Tables 1 and 2). The categories are as follows:

1. **Target-like**: the phrase was successfully translated into the target language in accord with the V-framed nature of Spanish for Group A (i.e., verb expressing motion and path + gerundive constituent), or the S-framed patterns in English for Group B (i.e., verb expressing motion and manner + satellites expressing direction).

2. **Literal**: the phrase was translated literally from the L1, with the typological pattern of the L1 carried into the target language directly (for Group A, verb of motion and manner + locative elements, e.g., adverb, preposition; for Group B, verb of motion and direction + gerund expressing manner).

3. **Other**: this includes examples of avoidance (e.g., use of the verb huir/to flee to express the action ran out), or cases of only half the original information being expressed, i.e., motion + path excluding manner, or motion + manner excluding path.

Tables 1 and 2 below contain data from Group A and Group B respectively grouped according to the above categories and the total number of responses per category, as well as the corresponding items to be translated from English to Spanish (Table 1) and Spanish to English (Table 2). Table 3 in Appendix C combines the data from Group A and Group B for an overview of the results.

<table>
<thead>
<tr>
<th>Table 1: Group A Results (English to Spanish)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>(a) She ran out of the house</td>
</tr>
<tr>
<td>(b) The boat floated across the river</td>
</tr>
<tr>
<td>(c) The butterfly flew into the room</td>
</tr>
<tr>
<td>(d) They ran back down into the basement</td>
</tr>
<tr>
<td>(e) The balloon floated up the chimney</td>
</tr>
<tr>
<td>Total (/135 – 5 questions x 27 responses)</td>
</tr>
<tr>
<td><strong>Total %</strong></td>
</tr>
</tbody>
</table>

| Total % | 100% |
Table 2: Group B Results (Spanish to English)

<table>
<thead>
<tr>
<th>Item</th>
<th>Accuracy of translation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Target-like</td>
<td>Literal</td>
</tr>
<tr>
<td>(a) Salió corriendo de la casa</td>
<td>10</td>
<td>21</td>
</tr>
<tr>
<td>(b) El barco cruzó el río flotando</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>(c) La mariposa entró volando en la sala</td>
<td>4</td>
<td>27</td>
</tr>
<tr>
<td>(d) Volvieron corriendo al sótano</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>(e) El globo subió flotando por la chimenea</td>
<td>7</td>
<td>19</td>
</tr>
<tr>
<td>Total (/160 – 5 questions x 32 responses)</td>
<td>26</td>
<td>120</td>
</tr>
<tr>
<td>Total %</td>
<td>16.25%</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Participants were provided with tasks designed to elicit responses exposing limitations in their acquisition of L2 semantic expression. It is evident from the data shown in Table 1 that producing target-like translations of motion event expressions was indeed problematic for all participants, irrespective of their native language. By combining the results from Tables 1 and 2, it has been found that 72.9% of responses involved participants directly transferring the grammatical structure of motion events in their L1 by translating the individual components and henceforth producing direct, literal, and erroneous translations of the phrases. A prime example of this is item (b), which elicited target-like translations from only 7% of participants. The remaining 93% constructed the phrase as in their respective native language. For example, participants in Group A translating from English to Spanish used the verb *flotar*, plus a range of prepositional phrases, the most popular being *sobre* ‘over’, *por* ‘along’, and *a través de* ‘through’. While these combinations do carry lexical meaning in Spanish, they do not remain true to the original meaning of the English phrase and its telic nature in Spanish. Meanwhile, participants from Group B simply carried the entire argument structure from Spanish into English, producing phrases which predicate the path of the motion and express the manner of motion in a gerundive constituent, e.g., “The boat crossed the river floating”. As far as the first research question is concerned, whether or not participants exhibit signs of L1 transfer in L2 motion event expressions, both Groups did show clear signs of transfer from their respective native languages.

Turning now to the second question concerning the nature of this transfer, an in-depth analysis of the results reveals that the transfer appears to be conceptual rather than grammatical or otherwise, or due to a lack of semantic competence. Let us first consider the data from Group A (Table 1). While items (a) and (d) elicit a percentage of target-like translations above the average percentage (48% and 30% respectively), native English speaking participants demonstrate an extremely limited capacity to produce target-like translations of the other boundary-crossing motion event items – particularly item (b), as discussed above. It seems that our native English speaking participants struggled to identify all motion events as boundary-crossing motion events, as they are perceived in Spanish. Let us return here to Slobin’s (1996: 91) statement on actions “evident to the non-linguistic eye”. It is possible to deduce from the data that running out of a house, as in (a), or running into a basement, as in (d), were more clearly identified by Group A participants as motion events which involve the figure crossing a boundary, given that entering or exiting a location involves crossing a boundary which is indeed evident to the “non-linguistic eye”. Meanwhile, an object floating across a river or up a chimney does not explicitly imply a boundary-crossing situation in English, and consequently participants in Group A did not identify it as such. In fact, items (b) and (e) elicited only 5 correct translations from Group A. In accord with Slobin’s (1996) hypotheses, it seems that the data from Group A does indeed indicate the validity of thinking-for-speaking in the expression of motion events in an L2 belonging to a different typological category to the L1.

On the basis of evidence from Group B’s results, it is possible to start forming answers to both research questions. Regarding Group B, identifying a motion event as boundary-crossing or not is assumed to not pose the same problem for native speakers of Spanish translating to English. As discussed in Section 2.3, this distinction simply does not exist in English. However, what does pose a problem for native Spanish speaking participants is the complete lack of telic (boundary-crossing) motion event structures in English.
Results suggest that Group B participants are simply unable to conceptualise the fact that motion events in Spanish which may be either telic or locative only have a locative structure equivalent in English, whether or not the event involves crossing a boundary. As shown in Table 2, Group B participants were 6% less successful in producing target-like translations than their counterparts in Group A, with only 16.25% of responses in Group B showing evidence of participants having identified a framework which requires restructuring in the process of translating from Spanish to English in order to produce a target-like translation. Interestingly, in Group B, the only participant who produced five target-like translations was an Advanced level learner who, although having always lived in Spain, speaks fluent Chinese due to having Chinese immigrant parents. As Chinese is a language which is categorised as a satellite-framed language, like English, it can be assumed that this participant was so successful in his production of target-like translations due to his knowledge of Chinese.

As far as the research questions are concerned, the above analyses and subsequent arguments have at least begun to form a basis for solid evidence in favour of the presence of conceptual transfer and of that transfer being a result of thinking-for-speaking. Nonetheless, there is some incongruous data from Group A which may contradict this. Starting with item (c), although it was expected to elicit a similar proportion of target-like translations from Group A as items (a) and (d), as the motion event involves the figure crossing a boundary in a non-linguistic sense (the butterfly enters the room by flying), it in fact elicited only four target-like responses from a group of 27, a 15% success rate. This data may suggest grammatical over conceptual transfer, or that simple semantic incompetence is accountable for these particular errors, or even that the target-like translation success rate for items (a) and (d) is purely down to pedagogical reasons. Participants may have come across constructions containing the verbs salir ‘to go out’, volver ‘to return’, and bajar ‘to go down’ more frequently than the verb volar ‘to fly’. Another explanation would be the fossilisation process proposed in Selinker’s (1972) Interlanguage Hypothesis: the low success rate in the translation of this item appears to be an example of a “residue” error which L1 transfer cannot account for (Tarone 2006: 748), as was found by contrastive analysts prior to the notion of fossilisation being proposed. Rather than conceptual transfer being a factor here, the fact that very few participants in Group A produced a target-like translation of item (c) may indeed be due to a process like fossilisation; their L2 acquisition may have ceased and consequently fallen short of “full identity” with the target language (Tarone 2006: 748).

It is worth noting again, however, that this study does not hold Slobin’s (1987) thinking-for-speaking hypothesis accountable for every single error produced by adult foreign language learners, but rather proves that this theory is one which must be taken into account when analysing learner language. It is indeed possible to form another solid argument in favour of thinking-for-speaking despite the data above, which may point in the direction of theories such as Interlanguage rather than thinking-for-speaking. Let us consider item (j) in Group A’s distractor group (‘I dreamt about her last night’, see Section 3.3). The distractor items in this study were not designed to elicit responses which may indicate thinking for speaking, but one such example has appeared nevertheless. The English construction to dream about is expressed in Spanish as soñar con, literally meaning to dream with. The concept of dreaming “with” someone or something is completely unfamiliar in English, since it implies an impossible action, along the lines of dreaming the same dream simultaneously with another person. In accord with the thinking-for-speaking hypothesis, an L1 English speaker’s production of this phrase in Spanish should be subject to a great deal of transfer due to the contrasting conceptual parameters in the L1 and the L2. As predicted, less than half (44.4%) of responses produced used both the correct Spanish verb and preposition. Only 7.4% of participants, however, translated the phrase directly and produced the literal translation soñar sobre ‘about’.”
than using the correct Spanish soñar con. It can therefore be deduced that the unfamiliarity of using the preposition with alongside the verb to dream in English, due to its implausible connotations, does indeed affect L1 English speakers’ ability to produce target-like translations of item (j). In response to the second research question, these findings provide solid evidence of L2 production being affected by L1 thinking and in turn shaping learner language.

Let us now consider the translations of motion events which were neither target-like nor literal. In item (a) from Group A, 3 of 4 cases of avoidance involved participants choosing to use the verb huir, meaning “to flee”, roughly maintaining the original meaning of the English phrase while avoiding both the verb-framed and the satellite-framed expression of motion events. The remaining participant simply wrote salió de la casa, maintaining only half of the original meaning, in this case the path expressed in the original phrase. This kind of response was also produced by four participants in item (e); in these cases, participants wrote subió la chimenea, also maintaining the expression of path from the original phrase but not the expression of motion.

Both kinds of avoidance, whether choosing to use a different verb or to omit one half of the motion event expression, can be considered highly indicative of the difficulties arising from the differences in S-language and V-language lexicalisation patterns. Furthermore, that several participants chose to avoid maintaining the whole meaning of a motion event construction in order to facilitate production is reminiscent of Slobin’s (1997: 438) research on literary translation, in which he found that native Spanish speaking professional translators working from English to Spanish avoided expressing manner but maintained the expression of the figure’s trajectory. It is particularly interesting that native English speakers followed this pattern, since one would expect native English speakers to apply preference to the manner of the figure rather than its trajectory. The fact that they instead behaved like native Spanish speakers suggests that, to an extent, they have acquired the Spanish preference to express path rather than manner, although they were perhaps not linguistically competent enough to find a way to express manner in the same phrase. This issue is left for future research.

Interestingly, in cases of avoidance produced by Group B participants, where only half of the motion event expression was maintained in the translation, the native Spanish speakers demonstrated a preference for maintaining the direction of the motion event in the verbs they chose to use rather than adopting the S-framed structure in which manner is predicated (e.g., ‘The balloon went up the chimney’, where the “floating” element is omitted). This contrasts with Group B’s native English speaking counterparts in Group A, who, as mentioned above, have shown some level of acquisition of the V-framed languages’ expression of path over manner.

Finally, it is necessary to address the fact that the participants’ proficiency level was not taken into account when analysing the data. Responses in all three categories (target-like, literal, other) were found across all competency levels in both Groups. While 82% of the 56 target-like translations of motion events were produced by advanced learners, as is to be expected, numerous participants in this proficiency level group consistently produced literal translations of the motion event items, and ultimately only one participant from each group produced a full set of target-like translations. Participants’ proficiency in their respective L2s does not appear to play any part in how many target-like translations were produced, and it is for this reason that it was not considered as an independent variable. Following Slobin’s (1996b) proposal, it seems that the cognitive “training” imposed by the native language in first language acquisition is indeed “exceptionally resistant to restructuring” at all stages of acquisition (Slobin 1996b: 89).

5 Conclusion

The data collected in the present study succeeds in providing answers to the research questions being addressed in this study, namely:
1. Do participants exhibit signs of L1 transfer in motion event expressions constructed in their L2?
2. If so, does this transfer appear to be conceptual in nature, providing evidence for the thinking-for-speaking hypothesis?
Firstly, responses from participants clearly exhibited signs of L1 transfer; whether conceptually speaking or otherwise, our native English speakers carry the satellite-framed lexicalisation patterns into Spanish 70.4% of the time. Meanwhile, the native Spanish speaking participants exhibited an even higher level of transfer, constructing 75% of their phrases according to the verb-framed nature of Spanish in their English translations. Secondly, in-depth analysis of the results shows that the tasks provided to participants elicited responses exhibiting signs of conceptual transfer from the native language. For example, it was evident that the native English speakers struggled to identify a boundary-crossing event as a change of state requiring an independent predicate in Spanish, while the native Spanish speakers appeared completely unaware that this structure did not exist in English. Further data analysis, such as considering Group A’s translations of the distractor items (particularly item (j)), both validates and supports thinking-for-speaking, the hypothesis that a person’s native language provides them with fixed conceptual parameters, as a significant factor in the production of learner language errors.

Furthermore, the “residual” results in the data have shown that language transfer is not the only process shaping learner language, as proposed by Selinker (1972) and outlined in the Interlanguage Hypothesis (Tarone 2006: 749). Nevertheless, it was never our aim to claim the thinking-for-speaking hypothesis as the only possible explanation for unsuccessful L2 motion event expression by learners of a language belonging to a different typological category to their mother tongue. Rather, we sought to provide evidence of L1 transfer in L2 production, to investigate its nature, and subsequently to prove that thinking-for-speaking is a process which, although it may not be the sole factor affecting learner language, is indeed a significant factor in L2 behaviour.

Acknowledgments: First and foremost, I would like to thank all participants in my study, both from Newcastle University and The English Centre, Igualada. I also would like to thank the Open Linguistics reviewers, whose constructive and insightful comments have improved this paper significantly. I am also especially grateful to Professor Martha Young-Scholten, my undergraduate supervisor, Professor Ian Mackenzie, who helped me find my feet within the field of Linguistics. Finally, my sincere thanks go to my family, who support me through everything.

References

Slobin, Dan. 1996a. Two Ways to Travel: Verbs of Motion in English and Spanish. In Grammatical Constructions: Their Form and Meaning, edited by Shibatani, M & Thompson, S. Clarendon Press, Oxford UK.


Appendices

Appendix A

Group A Task:

Translate the following sentences into Spanish, without consulting a dictionary or machine translator:

1. She ran out of the house.
2. He fell in love with her.
3. They were worried about their mother.
4. The boat floated across the river.
5. I need to think about it.
6. This drink is for your mother.
7. The butterfly flew into the room.
8. They ran back down into the basement.
9. I dreamt about her last night.
10. The balloon floated up the chimney.
Appendix B

Group B Task:

Traduzca las frases siguientes al inglés, sin consultar un diccionario ni un traductor automático.

1. Salió corriendo de la casa.

2. Pasé el día leyendo el libro que me habías prestado.

3. La mariposa entró volando en la sala.

4. Voy mejorando mi nivel de inglés.

5. El barco cruzó el río flotando.


7. Volvieron corriendo al sótano.

8. El globo subió flotando por la chimenea.

9. Estudiando, el examen nos saldrá bien.

10. Quiero mejorar mi nivel de inglés, por eso sigo practicándolo.
Appendix C

Results

Table 1: Group A Results (English to Spanish)

<table>
<thead>
<tr>
<th>Item</th>
<th>Target-like</th>
<th>Literal</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) She ran out of the house</td>
<td>13</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>(b) The boat floated across the river</td>
<td>2</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>(c) The butterfly flew into the room</td>
<td>4</td>
<td>23</td>
<td>0</td>
</tr>
<tr>
<td>(d) They ran back down into the basement</td>
<td>8</td>
<td>17</td>
<td>2</td>
</tr>
<tr>
<td>(e) The balloon floated up the chimney</td>
<td>3</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>Total (135 – 5 questions x 27 responses)</td>
<td>30</td>
<td>95</td>
<td>10</td>
</tr>
<tr>
<td>Total %</td>
<td>22.2%</td>
<td>70.4%</td>
<td>7.4%</td>
</tr>
</tbody>
</table>

Table 2: Group B Results (Spanish to English)

<table>
<thead>
<tr>
<th>Item</th>
<th>Target-like</th>
<th>Literal</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Salió corriendo de la casa</td>
<td>10</td>
<td>21</td>
<td>1</td>
</tr>
<tr>
<td>(b) El barco cruzó el río flotando</td>
<td>2</td>
<td>28</td>
<td>2</td>
</tr>
<tr>
<td>(c) La mariposa entró volando en la sala</td>
<td>4</td>
<td>27</td>
<td>1</td>
</tr>
<tr>
<td>(d) Volvieron corriendo al sótano</td>
<td>3</td>
<td>25</td>
<td>4</td>
</tr>
<tr>
<td>(e) El globo subió flotando por la chimenea</td>
<td>7</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>Total (160 – 5 questions x 32 responses)</td>
<td>26</td>
<td>120</td>
<td>14</td>
</tr>
<tr>
<td>Total %</td>
<td>16.25%</td>
<td>75%</td>
<td>8.75%</td>
</tr>
</tbody>
</table>

Table 3: Group A and B results

<table>
<thead>
<tr>
<th>Item</th>
<th>Target-like</th>
<th>Literal</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) She ran out of the house</td>
<td>23</td>
<td>31</td>
<td>5</td>
</tr>
<tr>
<td>(b) The boat floated across the river</td>
<td>4</td>
<td>53</td>
<td>2</td>
</tr>
<tr>
<td>(c) The butterfly flew into the room</td>
<td>8</td>
<td>50</td>
<td>1</td>
</tr>
<tr>
<td>(d) They ran back down into the basement</td>
<td>11</td>
<td>42</td>
<td>6</td>
</tr>
<tr>
<td>(e) The balloon floated up the chimney</td>
<td>10</td>
<td>39</td>
<td>10</td>
</tr>
<tr>
<td>Total (295 – 5 questions x 59 responses)</td>
<td>56</td>
<td>215</td>
<td>24</td>
</tr>
<tr>
<td>Total %</td>
<td>19%</td>
<td>72.9%</td>
<td>8.1%</td>
</tr>
</tbody>
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