Expressing Motion Events in Two Typologically Different Languages: Language Transfer of Path and Manner Expressions*

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In the field of language typology, studies surrounding the cross-linguistic expressions of motion events have continued to attract great interest among researchers (Berman & Slobin 1994; Choi & Bowerman 1991; Naigles & Terrazas 1998; Slobin 2005; Talmy 1985, 2000) recently, crossing over to second language studies (Allen et al. 2005, Inagaki 2001, Negueruela et al. 2004, Yu 1996 *inter alia*). This paper examines the overall pattern of syntactic packaging of path and manner productions across two typologically different languages (English and Korean) and the cross-language transfer patterns of adult speakers’ L1 (Korean) on their L2 (English) when expressing motion events. Three sets of linguistic production data (L1 Korean, L2 English, L1 English) from two different language groups (15 Korean native speakers, 20 English native speakers) after viewing thirty-five video clips containing motion event scenes are examined. The results suggest that the three language groups significantly differ in the syntactic packaging of path and manner information, with L1 Korean and L2 English showing more instances of path only sentences when compared to L1 English. The results also show strong evidence for transfer as inferred from the observation of congruence in L1 and interlanguage productions. Detailed analysis of the transfer effects of L1 on L2 as well as error patterns of motion event descriptions in the L2 illustrated evidence of transfer effects in the production of motion events. Analysis of the errors evidenced in the speakers’ L2 together provides insights into teaching English as a second or foreign language. Discussion of possible further research follows.

**Keywords:** motion events, language transfer, path and manner description, interlanguage, error analysis, Korean, EFL

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1. Introduction

Languages typologically differ in the way they convey meanings with surface expressions. In the field of language typology, studies surrounding the cross-linguistic expressions of motion events have continued to attract great interest (Choi & Bowerman 1991; Hohenstein et al. 2006; Negueruela et al. 2004; Slobin 2004a, 2004b, 2005; Talmy 1985, 2000). Numerous cross-linguistic and developmental studies have investigated the surface expressions of motion events by examining narratives (Slobin 2004b, Berman & Slobin 1994), spontaneous speech (Choi & Bowerman 1991) and elicited productions (Choi 2008, Naigles & Terrazas 1998). In most of these studies, surface expressions of motion events are analyzed based on the following major conceptual categories: presence of Motion, Manner, Path, Ground, and Figure. These prior studies have investigated the conflation patterns of the above conceptual categories in the languages of children or adults who are native speakers of that language, while holding a syntactic category (e.g., main verb or satellite) constant. However, relatively few studies have been conducted exclusively on second language adult learners and, when research included adult learners, the focus was on gestural complementation (Allen et al. 2005) or bilingual speakers (Hohenstein et al. 2006) rather then the language transfer patterns of adult second language learners who were exposed to the second language after the generally accepted critical age for language learning.

The goal of this paper is to examine the overall pattern of syntactic packaging of path and manner descriptions across languages along with the cross-language transfer patterns of adult speakers’ L1 (Korean) or the target language (English) on their L2 (English), when expressing motion events. The study could shed light on understanding the dominant transfer process — whether it be their native language or target language — involved in second language acquisition when the second language is typologically different from the learner’s native language, specifically in its description of semantic notions such as path and manner. In lieu with these results, the L2 interlanguage of

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1 Motion events are defined as a figure moving in relation to some ground (Talmy 1985, 2000). The linguistic expression or description of a motion event can include any or all of the following semantic components: figure (the object in motion); ground (the source, goal, or location of the motion); path (the course followed by the figure) and manner (the way the figure moves or being moved). As implied in the definition, motion event descriptions obligatory require expression of path while manner may be optional in some languages.

2 I realize that research on the age factor in general and of the plausibility of the existence of a ‘critical period’ has produced inconclusive results; no agreement has been reached as of yet. For a review on studies that deal with the critical period hypothesis refer to Dekeyser (2000) and Singleton (2005). In this study, the participants are all college students with an age range of 18 to 22, thus outside the boundary of debate and safe to describe as adults who have passed their critical period with respect to language learning.
late adult English learners whose native language, Korean, has a typologically different pattern of expressing motion events will be discussed. Finally, analysis of the errors evidenced in the speakers’ L2 together with insights into teaching English as a second or foreign language to students will be demonstrated.

2. Background Studies

2.1. Typological Difference in Manner and Path Expressions

English and Korean can be analyzed as two typologically different languages in terms of motion event description, following the categorization originally proposed by Talmy (1985). Based on the means of expression of the path of movement, a language can be either categorized as a V(erb)-framed language or a S(atellite)-framed language. In a V-framed language, path information is usually encoded in the main verb or a mono-morphemic path verb (Slobin 2004a). The following is an example from Spanish, which is a typical V-framed language. In this sentence, the main verb *entró* contains information about the path of movement as indicated in the English translation, *moved-in.*

(1) La botella *entró* a la cueva flotando.
the bottle moved:in to the cave floating

‘The bottle floated into the cave.’

On the other hand, in a S-framed language (e.g., English), the path information tends to be expressed separately with a satellite. In (2) below, the English sentence expresses path of movement with the satellite (verb particle) *out.* In English, the surface expression of path usually encompasses a satellite demonstrating the course of movement followed by a prepositional phrase giving the ground information. The prepositional phrase carrying ground information is generally omissible as displayed by the parenthesis.

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3 Talmy (1985) defines satellites as ‘certain immediate constituents of a verb root other than inflections, auxiliaries, or nominal arguments’ (p. 102). Following this definition, the clearest forms of satellites are English verb particles, Latin verb prefixes, Chinese resultative complements, and the non-inflectional affixes in the Atsugewi polysynthetic verb. The following are examples of verb prefixes in Russian and English; the elements in bold print can be characterized as satellites, in the sense that they relate to the verb root as modifiers or periphery to a head (p.102).

English: The gun *mis*-fired.  
Russian: Ptica *v*-letela  
‘the bird flew in’

For the current study, satellites mainly refer to English verb particles because the form of satellites found in the study is restricted to this category.
(2) I ran **out** (of the house).

PATH (GROUND)

Korean can be categorized as a V-framed language because path information is encoded in a verb. However, Korean shows a different pattern from typical V-framed languages where the verb containing path information functions as the main verb.\(^4\) In Korean, the deictic verb (expressing the viewpoint of the speaker) instead of the path verb functions as the main verb when verbalizing spontaneous motion events. Recent studies (Choi 2008; Naigles L. & Terrazas 1998; Slobin 2004b, 2005) have provided convincing evidence for S- and V-framed languages forming a continuum rather than a binary typology. Viewing languages as forming a cline of typologies would be more appropriate in analyzing languages such as Korean, which does not fall directly into either end.

The following equivalent sentences from English and Korean exemplify how these two languages differ in expressing the same motion event: in this case, describing a male figure running into a room from a hallway. The bold faced texts describe the four semantic components included in typical motion event descriptions: Figure, Path, Ground, and Manner. The main verbs for each sentence are underlined.

(3) English: A man **ran** in to the room.

FIGURE MANNER PATH GROUND

Korean: Namca-ka pang-ulo **tivui-e** **tul-e** **o-ass-ta**.

A: man-SM\(^5\) room-LM run-CONN enter-CONN come-PST-DECL

FIGURE GROUND MANNER PATH DEIXIS

‘A man came and entered the room running.’

In English, the main verb is *run*, whereas in Korean, the main verb is the deictic verb *o-ass-ta* ‘came’. Path is expressed by the satellite *in* and the path verb *tul-e* ‘enter’ in English and Korean respectively. It should also be noted that the Korean description has three separate verbs, *run*, *enter*, and *come*, used in a serial-verb construction headed by *o-ass-ta* ‘came’ while its English counterpart has one verb, *run*.

Language typology studies on cross-linguistic narrative data or oral production were generally conducted on one's native language (Choi 2008; Choi & Bowerman 1991; Slobin 2004a,b; Berman & Slobin 1994) or languages of bilinguals (Hohenstein et al. 2006, Negueruela et al. 2004) primarily because

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\(^4\) Main verbs refer to those verbs that carry tense and are obligatory in the sentence when it co-occurs with other verbs in serial-verb constructions.

\(^5\) Korean was translated following the Yale Romanization system. Abbreviations used in this study for transcribing Korean are provided in Appendix 2.
these languages carried more consistency across speakers and time. This study could contribute to contemporary research in the study of transfer in the encoding of motion events and be an addition to the existing studies on the expression of motion events in second language acquisition (Allen et al. 2005; Inagaki 2001; Negueruela et al. 2004, Montrul 2001 inter alias).

2.2. Language Transfer in Second Language Productions

After analyzing talk between children and caregivers in Korean and English, Choi and Bowerman (1991) concluded that children display sensitivity toward language specific ways of expressing motion events by 17-20 months. Existing research has demonstrated that older learners tend to transfer more than younger learners (Celaya et al. 2005). The L1 of adult learners of a second language may either interfere or facilitate the acquisition of a second language. For adult learners, conceptual categories related to language are already formed so it would be reasonable to attribute any difference in language production between L2 speakers and the target language largely to their first language or semantic categories shaped by one’s native language.

(4) is an illustration of the possible directions of transfer that can influence the learners’ L2 along with the respective languages in focus. Although transfer is typically defined as applying a rule or form of one’s first language onto one’s second language (Selinker 1983), in this study, transfer of the target language onto one’s second language will also be investigated. The term L2 will be used interchangeably with interlanguage because of the continuously changing nature observed in L2 English (Selinker 1969).

(4) Native Language  →  Interlanguage  ←  Target Language
Korean          L2 English         English

Because the participants for this study were late learners of English as a second language, it would be safe to hypothesize that there would be more influence of L1 Korean on the participants’ interlanguage; they had a shorter amount of exposure to English compared to Korean. Studies on bilingual adults and children (Hernandez et al. 1994, Hohenstein et al. 2006) have concluded that there exists a bi-directional effect of L1→L2 and L2→L1 where L1 and L2 are both defined as native languages of the speaker. The possible influence of L2 English on L1 Korean will not be considered because it is not the focus of this study. The issue may taken up in a separate study.

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6 Recent investigation of transfer across languages has provided empirical evidence for the occurrence of ‘interlanguage transfer’ (De Angelis & Selinker 2001). Cenoz (2000) presents a typology of language background combinations that may result in different acquisition orders in second language acquisition and in multilingual acquisition.
3. Research Questions

The current article addressed the following three research questions. The contribution of the findings to language transfer and language typology theory and research is discussed throughout the paper.

i. What is the overall pattern of syntactic packaging of motion events (focusing on Path and Manner) across languages (L1 Korean and L1 English), across language groups using English (L2 English and L1 English) and within subjects (between subjects' L1 Korean and L2 English)?

ii. When do the L2 English motion event descriptions show first language transfer effect (L1 Korean → L2 English) and when does transfer from the target language norm occur (L1 English → L2 English)?

iii. What are the errors that show up in the L2 English data and what would are the pedagogical implications for EFL/ESL teaching?

Through these questions, the study will try to explain the bi-directional transfer phenomena observed in L2 by examining learners' data and illustrate the complexity found in the Korean students' L2 in an EFL context.

4. Method

4.1. Participant

The current study builds on two data sets. The first set of data consists of L1 (Korean) and L2 (English) written production from fifteen Korean native speakers. Fifteen students from three different universities in Korea were asked to participate in a writing task where they had to describe thirty-five motion event scenes after viewing video-clips lasting from five to seven seconds per scene. The thirty-five scenes contained motion events that differed in path of course (e.g., in/out, up/down) and/or manner of motion (e.g., run, walk, jump, roll) and presence or absence of causality. Causality, here, is defined in relation to the existence of an agent (Verheulen & Kellerman 1999).

All fifteen participants had learned English as a foreign language during high school and some time during college. The mean average time of English instruction the participants received was 5.33 years. None of the students had been in a context where English was spoken naturally in the surrounding environment (e.g., going abroad as an exchange student in a English speaking country). As a whole, the participants were late (or adult) learners of English as a foreign language.⁷

⁷ All fifteen participants were considered advanced English learners based on the placement exam (administered and made by the university for placement purposes only) they had taken.
The second set of data consisted of spoken transcripts from twenty English native speakers. The same video clips were shown to them upon which they were asked to orally describe a total of eighty-seven scenes. Among these, thirty-five scenes matching those that were used for the Korean participants were selected and analyzed.

4.2. Procedure and Instruments

After viewing a scene containing a motion event, each participant in the first data set was first asked to describe the scene in English. The same scene was replayed whenever the students requested to review it. Two practice scenes and their descriptions were given beforehand. The participants were allowed to write down a long description containing more than one sentence. Because the focus of this study was on the grammatical expression of semantic notions such as path and manner in motion events, names of certain objects that the students did not know, such as stool and bicycle rack, were given to them in advance. The participants were divided into two groups. For the first group, when everyone in the group completed describing thirty-five motion events in English, the researcher replayed the same video, this time asking them to describe each event in Korean. There was a short break lasting approximately 10 minutes in-between the two sets. Instructions were given cautioning the participants not to translate directly from the English sentence counterpart. For three out of fifteen participants in the second group, the order was counterbalanced, so these three participants were asked to first write the descriptions in Korean and then in English. The number of participants did not allow for statistic measures; however, no noticeable difference in the pattern of answers before entering the university English program. The program divided students into three categories—beginners, intermediate, and advanced learners of English—based on the score they received in the placement exam. The placement exam consisted of a writing and a listening test similar to exam questions found in TOEIC.

8 The English native speaker data were provided by Choi and were collected by her and her graduate students for a separate language typology study comparing Korean and English L1 productions (Choi 2008). Although Choi's study provided a theoretical and conceptual building block for the current study, her study focused on the comparison of two typologically different L1s, and did not investigate EFL behavior or inter language transfer in the description of motion events.

9 The two practice scenes were 'John puts his glasses into a case' and 'Mary walks into a classroom.'

10 A complete list of the motion event scenes used for this study is provided in Appendix 1.

11 Initially the plan was to counterbalance the order for half of the participants, however, time conflicts, and absence of students resulted in only three students participating on this particular date. A further study with equal number of participants allocated to different groups could be designed to test if the ordering of tests would influence the performance of sentence production.
provided between the two groups in terms of the proportion of path and manner descriptions in sentence productions were found, suggesting that the order of language productions would not, or would have a minimal affect on the results if any.

4.3. Coding

To address the research questions, written and spoken productions were coded following the labels below. The first three pair of coding categories displays the subject's native language and the language used in the elicited production, separated by a dash.

K-K: Korean native speakers describing the event in Korean
K-E: Korean native speakers describing the event in English
E-E: English native speakers describing the event in English

The elicited sentences were classified into four syntactic packaging types in terms of inclusion of 'path' and 'manner' information. Each number demonstrates whether path and manner information is syntactically manifested or missing from the sentence. All 35 motion event scenes included a figure moving toward a particular direction (i.e., all scenes included path and manner.)

- Syntactic packaging
  1 - no path or manner
  2 - path only
  3 - both path and manner
  4 - manner only

Individual sentences were analyzed following three steps. First, the sentence productions were analyzed based on the presence of path and manner information preceded by the subject's native language and the language used in the production. For example, sentence (5) was coded as K-K-2; a native speaker of Korean (K) produced the sentence in Korean (K) and the sentence contained path information only (2), expressed by the path verb *naylye* 'descend'. I did not consider lexicalization of the path information in the verb as a separate analytic category (i.e., 'descend' and 'go down' are synonymous in this sense) but rather focused on the syntactic packaging of motion events.

(5) K-K-2

<table>
<thead>
<tr>
<th>Kunye-nun</th>
<th>keytan</th>
<th>alay-lo</th>
<th>naylye-ka-n-ta.</th>
</tr>
</thead>
<tbody>
<tr>
<td>She-SM</td>
<td>stair</td>
<td>underneath-LM</td>
<td>descend-go-PRS-DECL</td>
</tr>
</tbody>
</table>

`GROUND` `PATH`

'She is going and descending the stairs.'
The endpoint of the path expressed by a locative marker in Korean (e.g., *alay-la* ‘room-LM’) was not counted as a path expression because it could be comparable to ground information expressed by an English prepositional phrase as shown in (6). In Korean, the frequency counts for path were limited to those sentences describing the course followed by the figure object, expressed with path verbs.12

(6) He walked \textit{in} \textit{to} the room

\textbf{PATH} \textbf{GROUND}

Second, a detailed analysis of the surface expressions followed, in order to take notes of errors or cross-linguistic patterns that appeared across groups. For example, even though sentences (7) and (8) are both coded as 3 (containing both path and manner information), it could be noted that the participants use different syntactic structures. Sentence (7) conveys manner by using an adjective \textit{slowly}, while (8) uses a manner verb \textit{step}. These examples indicate that even in cases where the groups display the same syntactic packaging pattern denoted by number 3, a detailed analysis of the structure shows difference in manner expression between K-E and E-E

(7) K-E-3

\begin{itemize}
  \item Some man \textit{slowly} \textit{cross} the bicycle rack.
  \item MANNER \textbf{PATH}
\end{itemize}

(8) E-E-3

\begin{itemize}
  \item He \textit{steps} \textit{over} a bicycle rack.
  \item MANNER \textbf{PATH}
\end{itemize}

In the frequency counts, the difference in syntactic expressions of manner and path is inevitably collapsed. However, these differences were accounted for through individual qualitative, accounts throughout the sections (most notably in section 5.3).

Table 1 shows the overall coding scheme used in the present study, modified from Slobin (2004) and Talmy (2000). The linguistic forms for path and manner description varied across languages and were collected generously rather than being limited to a particular form. As long as the syntactic form con

12 A complete list of the Koran verbs analyzed as path verbs or manner verbs in this study are provided in Appendix 3.

13 In this study, the verb \textit{step} is coded as a manner verb because it depicts the motor pattern required to make the movement of crossing over when compared to a verb like \textit{move}. The sentence conveys path information by the satellite \textit{over} rather than \textit{step}. However, it could be debated that \textit{step} contains path information as well to some extent.
Table 1. Schematic summary of the functions\textsuperscript{14} of path and manner

<table>
<thead>
<tr>
<th>Path</th>
<th>Manner</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Direction of movement (up, down, forward, in, out, etc.)</td>
<td>1. Motor pattern required to execute movement (run, crawl, walk, etc.)</td>
</tr>
<tr>
<td></td>
<td>2. Force dynamics (causality)</td>
</tr>
<tr>
<td></td>
<td>3. Means of conveyance (by car, by rope, by animal)</td>
</tr>
<tr>
<td></td>
<td>4. Rate (slowly, fast, etc.)</td>
</tr>
</tbody>
</table>

tained the functions of path and manner depicted in the following table, it was counted for analysis.

Finally, each production was further divided by the presence or absence of causality. The reason for this division was motivated by the different preference for expressing the same event as containing causality or as a spontaneous one across languages.\textsuperscript{15} The following are three sentence productions where participants described a scene where a man is rolling a ball into a container. Both (9a), and (9b), which were produced by the same speaker, described the event as being a spontaneous one, whereas (9c) conveys causality with an implied agent using a passive sentence. Causality of a sentence was indicated by a (C) or (S) following the type category causative and spontaneous, whenever doing so was relevant to the discussion. The differences were taken into consideration in the analysis of transfer patterns.

(9) a. K-K-2 (S)
Kong-i thong:an-ulo tule-ka-ss-ta.
Ball-SM case:inside-LM goin-go-PST-DECL
PATH
'A ball went in (to the inside of) the case.'

b. K-E-3 (S)
The tennis ball \textit{went in} to the canister.
MANNER PATH

c. E-E-3 (C)
A tennis ball was \textit{thrown in} to the case.
MANNER PATH

The frequency of path and manner in the data was tabulated and analyzed by

\textsuperscript{14} As pointed out by a reviewer, the term function is used to count the syntactic packaging of information containing the respective meanings of path and manner.

\textsuperscript{15} I realize that this terminology accommodates the use of specific terms such as 'zero causation' and 'sequential causation' that have been coined for this purpose (Verheulen & Keller-man 1999). However, I would like to make it clear that the purpose of analyzing 'causality' was to differentiate between situations where causes are observable and present from absolute absence of causation rather than to deliver a precise measure of causality.
using SAS (9.1.3.) and manual frequency counts, followed by further analysis of the structural and syntactic differences in sentences between the three groups.

5. Results

5.1. Overall Pattern of Path and Manner Expressions

As a first step, the overall frequency of path and manner expression for each group was calculated. Figure 1 shows the percentage of occurrence of the 4 categories in each group. The four columns representing the three language groups display a striking pattern of stepwise pattern; most telling is the proportion of path only expressions across groups, displayed by the solid black columns. The graph displays a clear pattern of learners' interlanguage (K-E) being restructured and evolving towards the target language.

The distribution in Figure 1 indicates that overall, all three groups prefer to include both path and manner in describing motion events (shown by the dotted column) when both are present in the event. The following sentences produced by two different speakers (the K-K and K-E sentences are produced from the same Korean native speaker) illustrate this point. All three sentences below include both manner and path information. However, there is a difference in the way manner is expressed. In the K-K sentence, manner is expressed by the adverb "chenchenhi" 'slowly' whereas in the E-E sentence manner is conveyed by the verb "walk." In other words, in the K-K sentence (10a), the motor pattern required to execute the movement (the first function of manner

![Figure 1. Overall distribution of Path and Manner in L1 Korean (K-K), L2 English (K-E) and L1 English (E-E).]
as indicated in Table 1 above), is not present. Path is also expressed by different syntactic elements. K-K and K-E both use a path verb whereas, E-E expresses path with a satellite across.

(10) a. K-K-3
Ku-nun hwengtanpoto-lo chencheni kil-ul kenne-ss-ta.
He-SM crosswalk-INS slowly road-OM cross-PST-DECL PATH

"He slowly crossed the road by (using) the crosswalk."

b. K-E-3
He cross walk in the crossroad.
PATH MANNER

c. E-E-3
He walks across the street.
MANNER PATH

Aside from displaying the highest proportion of both kinds of information in these three groups, Figure 1 also suggests an influence of K-K on K-E (L2) which is most clearly displayed by the frequencies of 2 (path) and to some extent 4 (manner). To see whether the occurrence of path and manner for each group was significantly different across groups, a chi-square test was conducted.\(^{16}\) Actual frequency counts of the occurrence of the four categories, instead of the scaled distribution were used for chi-square statistics. The value of the chi-square was 92.07 (df=6) with a p-value that was less than 0.001: indicating that the distribution is significantly different across groups for all categories.

A significant difference existed in the three productions with K-K and K-E containing more path only sentences when compared to E-E. K-K used almost three times more path only sentences (30.69%) when compared to the E-E (9.52%). This can explain the frequency of path only expressions in the Korean speakers' L2 English (22.99%), which is significantly higher than those used in the English native speakers' productions (9.52%). However, K-K and K-E were also significantly different from E-E, regarding the proportion of

\(^{16}\) Following is the frequency table produced from the statistical analysis (SAS).

<table>
<thead>
<tr>
<th>group / category</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>KK</td>
<td>14</td>
<td>(4.62%)</td>
<td>93 (30.69%)</td>
<td>157 (51.82%)</td>
<td>39 (12.87%)</td>
</tr>
<tr>
<td>KE</td>
<td>25</td>
<td>(5.92%)</td>
<td>97 (22.99%)</td>
<td>248 (58.77%)</td>
<td>52 (12.32%)</td>
</tr>
<tr>
<td>EE</td>
<td>55</td>
<td>(8.31%)</td>
<td>63 (9.52%)</td>
<td>494 (74.62%)</td>
<td>50 (7.55%)</td>
</tr>
<tr>
<td>total</td>
<td>94</td>
<td>(6.78%)</td>
<td>253 (18.24%)</td>
<td>899 (64.82%)</td>
<td>141 (10.17%)</td>
</tr>
</tbody>
</table>

chi-square statistic:
df=6, chi-square=92.07, p < .001
manner expressions. The frequency of manner expression was higher in L1 English productions when compared to the L1 Korean and L2 English productions.

These results suggest that the three groups are significantly different from each other in terms of motion event description. The significantly higher frequency of path and lower frequency of manner expressions in L1 Korean (K-K) when compared to L1 English (E-E) could also be predicted from previous research. In the following Korean sentence (11), the manner verb *ttwur-*‘run+CON’ is expressed as an adjunctive phrase subordinated to the main verb *wa-ss-ta* ‘come’ and thus optional. Path is also expressed by a verb, in this case *tul-e* ‘enter’ and is subordinated to the deictic verb clause *wassta* ‘came’. In Korean, the deictic verb requires a path verb in order to be grammatical so path verbs are mandatory whereas manner verbs are optional.

(11) K-K-3
yeca-ka kyoshil-lo *ttwui-e tul-e wa-ss-ta*
woman-SM classroom-LM run-CON enter-CON come-PST-DECL
MANNER PATH

‘A woman ran and came and entered the classroom.’

Because manner and path are expressed by two separate verbs in Korean, it is possible to omit manner information, whereas in English, manner is lexically incorporated in the main verb making it more difficult to omit. These language specific restrictions can contribute to the significant difference manifested in the frequency of manner and path expressions between K-K and E-E. This result is also in line with Berman and Slobin (1994) who found that narratives of V-languages (e.g., Spanish) elaborate and focus more on describing the location of objects and of end states of motion rather than including information about manner of movement.

The most important finding revealed by this study is the nature of K-E. Statistical analysis from the current data shows that, in terms of motion event description, K-E or L2 English displays a separate language pattern, different from both the target language norm and the participant’s native language, giving K-E an independent status.

Overall, the Korean participants tend to pay less attention to manner of movement and showed more instances of path only expressions both in their L1 and L2 when compared to English native speakers. Following Talmy’s typology where language type is determined by the location of the path, K-E is closer to a V-framed language as indicated by the higher use of path verbs acting as the main verb and also by the high frequency of path only information (22.99%) when compared to English (9.52%), which is a S-framed language.
5.2. Transfer Effects

To investigate patterns of transfer effects on the interlanguage or L2 English, each scene was separately analyzed focusing on the surface expression of path and manner information. Transfer effects were defined by the existence of path and manner information conveyed in the sentence regardless of its syntactic packaging. Figure 2 illustrates the percentage of sentences that showed the same expressions as the target language \((E-E = K-E)\), L1 Korean transfer \((K-K \rightarrow K-E)\) and scenes that were described using the same pattern.

As shown in Figure 2, more than half of the scenes displayed transfer effects from L1 Korean to L2 English. Slightly over 40% of the motion event scene descriptions had the same pattern across the three groups. Even though these scenes had the same pattern, closer examination of the sentences illustrated that there were differences across groups in terms of surface expressions of path and manner. Only 1 motion event scene (depicting a man jumping up onto a chair) suggested transfer from the target language. This figure points to a strong influence of one's native language on L2 English in adult second language learners, when expressing motion events.

First, an analysis of the scenes with clear transfer patterns is provided. There were two types of scene descriptions that demonstrated L1 transfer. The first type consisted of scenes containing no path. There were two scenes that were included in this first category, which showed a woman transporting \textit{in} or \textit{out} of a room. Figure 3 provides the frequency of path and manner expressions occurring in the description of a scene showing a woman standing inside the

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\footnote{The three categories were coded by comparing the dominant syntactic packaging pattern of each sentence between L2 (K-E) and the two L1s (K-K and E-E). For example, the L2 description of the scene showing a man rolling a tennis ball into a container was analyzed as L1 transfer because K-K and K-E had more instances of 2 (path only) sentences when compared to E-E where all the sentences were coded as 3 (path and manner).}
classroom and reappearing out in the hallway. The actual moving sequence was cut out from the video so it seemed like the woman had transported out of the room. Sentences (12a), (12b), and (12c) show the most frequent ways of displaying the scene for each group.

\[(12)\]

\[a.\] K-K-2
Mary-ka pakkat-ccok-ulo na-ka-ss-ta
Mary-SM outside-toward-LOC move:out-go-PAST-DECL PATH

'Mary moved out and went outside.'

\[b.\] K-E-2
Mary moved \textit{out} of the room.

\[c.\] E-E-1
'Mary is inside the room, then suddenly outside the room.'

\textbf{No path or manner information}

As illustrated in Figure 3, in the E-E sentence productions, none of the participants included path (\textit{out}) or manner (\textit{walk}) information (also showed in 12c) whereas in Korean, all participants included path information only (\textit{na}-'move:out'). In K-K there was only one participant who included both manner and path information with a descriptive phrase (\textit{kwishin-kachi} 'ghost-like') as shown in (13).
K-E sentences showed a more varied picture; 26.67% of the participants produced sentences containing both path and manner (e.g., The woman walked up to the door, A woman blinks through the door) and 6.67% contained only manner (e.g., She skips the doorsill, She is jumping one foot). However, the majority (53.33%) produced sentences that included path information only (e.g., Mary go into the room, She moves forward) following the preferred structure of K-K. There were only two sentences (13.33%) that did not contain any manner or path information similar to those from the E-E productions.

The second type of motion event descriptions with a clear pattern of L1 transfer included scenes containing causality. When there was a choice between describing a scene as a spontaneous one or as a scene containing causality, when causality was present in the motion event scene, a clear difference between K-E (L2 English) and E-E (L1 English), which could be attributed to L1 transfer was evidenced. For example, when the motion event showed a man rolling a toy car into a toy garage, the participants had a choice between describing the scene as a spontaneous one using a middle voice sentence such as A car moves in to the garage, or a transitive one containing causality as in A man pushed a toy car in to the garage. In the latter sentences, both the manner of motion pushed and the path in is expressed whereas in the former sentences, only the path is expressed by in. Figure 4 illustrates the pattern of path and manner information in which participants were asked to describe a scene showing a toy car being rolled into a toy garage.

K-E shows a preference to use path only sentences (73.33%) when describing the scene in English, which was in line with 40% of the sentences produced in their first language, Korean. Compare sentences (15a) and (15b), which was produced by one student. The use of the Korean path verb tul- ‘enter’ is also seen in the English sentence expressed with the verb enter. Causality is marked by the S(pontaneous), and C(asual) in parenthesis.
Expressing Motion Events in Two Typologically Different Languages

Figure 4. J rolls a car into the garage.

(15) a. K-K-2 (S)
cangnamkam cha-ka chako-ey *tul-eka-ss-ta*
toy car-SM garage-LM *enter-CONgo-PST-DECL*

‘Toy car goes and enters the garage.’

b. K-E-2 (S)
Toy car *enters* a garage.

PATH

c. E-E-3 (C)
John *pushed* the toy car *into* the garage.

MANNER

PATH

In addition to the difference of whether path information is expressed in the verb or satellite, the difference of path expressions between K-K, K-E, and E-E could also be attributed to the expression of causality. In (15c), manner is expressed by the verb *push*, which co-occurs with an agent causing the figure to move. As noted in the coding procedure, when students included a human agent that caused the figure object to move, the verb expressing causality was analyzed as containing manner information. Table 2 below indicates the proportion of spontaneous and causal event descriptions used in each group for events containing a causal element. 13 out of the 35 scenes contained causality and Table 1 shows the percentage of causality, which was perceived across the groups in these 13 scenes. There is a preference for causal expressions over spontaneous event descriptions in E-E (66.4%), when compared to K-E (57.1%). For example, when describing the scene above, English native speakers favored expressions that included the agent, such as *J pushed the toy car into the toy garage* whereas Korean L2 speakers equally favored sentences that described the movement of the car as in *A mini car goes into the garage* without indicating an agent. This could partially be an influence from their L1, which
Table 2. Descriptions of motion events containing causality in each group

<table>
<thead>
<tr>
<th>Group</th>
<th>Causality</th>
<th>Spontaneous - path only</th>
<th>Causal descriptions (agent implied) - manner (+path)</th>
</tr>
</thead>
<tbody>
<tr>
<td>K-K</td>
<td></td>
<td>56.2%</td>
<td>43.8%</td>
</tr>
<tr>
<td>K-E</td>
<td></td>
<td>42.9%</td>
<td>57.1%</td>
</tr>
<tr>
<td>E-E</td>
<td></td>
<td>33.6%</td>
<td>66.4%</td>
</tr>
</tbody>
</table>

has a higher proportion of spontaneous descriptions than in English.

As shown in Table 2, we can say that the different percentages of descriptions containing causality is related to the different distributions of manner expression in each group illustrated in Figure 4, because describing a scene as a spontaneous one will more likely result in a path only description.

As was displayed in Figure 2, approximately half of the motion event descriptions (42.9%) suggested no difference in the frequency of manner and path expressions between English and Korean. For these productions, it would be impossible to determine transfer effects. These scenes included events that contained some manner of motion such as running, throwing, and cranking. The productions of each group describing three scenes that indicated no transfer pattern are provided below. All sentences contain both path and manner information even though different grammatical or syntactic elements can be employed. The three sentences in (16) describe a scene where a man is running across a street and the three sentences in (17) describe a scene where a woman is running into a classroom from a hallway. Sentences in (18) portray a man turning a handle or a crank linked to a toy house in order to move a doll upstairs. As indicated by the number 3 at the end of the first line of each of the productions, all sentences contained both path and manner information.

(16) a. K-K-3
ku-nun\textit{ttwui} -ese kil-ul \textit{kenne} -n-ta
He-SM run-CON road-OM cross-PRS-DECL
MANNER PATH

'He runs and crosses the road.'

b. K-E-3
He \textit{run}s across the street.
MANNER PATH

c. E-E-3
He \textit{run}s across the street.
MANNER PATH
Expressing Motion Events in Two Typologically Different Languages

(17) a. K-K-3
Yeca-ka kyoshil-lo twui-e tul-e wa-ss-ta.
woman-SM classroom-LM run-CON enter-CON come-PAS-DECL
MANNER PATH

'A woman ran and entered into the classroom.'
b. K-E-3
She runs into the room.
MANNER PATH
c. E-E-3
She ran into the room.
MANNER PATH

(18) a. K-K-3
namca-ka dolulay-lul iyongha-ye inhyung-ul wuichung-ul
Man-SM crank-OM use-CON doll-OM upstairs-LM
MANNER PATH

omky-ess-ta
move-PAS-DECL
'A man moved the doll upstairs using a crank.'
b. K-E-3
A man turned the crank to move the toy up the stairs.
MANNER PATH
c. E-E-3
J makes the doll go upstairs using a crank.
PATH MANNER

Figure 5 below shows the percentage of path and manner expressions when each group described an event where a woman runs into a room. The frequently used sentences accompanying this scene have been provided in (17) above.

While the participants included both path and manner information in their descriptions, two sentences from K-E showed a different pattern as indicated by the 6.7% blocks in Figure 5 above. One sentence included only path information (Mary go through to room by door) and the other included manner only (A woman running to classroom). These exceptional cases will be discussed in the error analysis section below.

Finally, I examined the instance of target language transfer. As shown in Table 2, only one scene showed L2 following the target language pattern in terms of path and manner information expressions, which described a scene where a man was jumping up on to a chair. The most frequently used sentences to describe the scene along with the overall frequency are provided below.
The striped columns indicating the percentage of manner only expressions display that K-E has more instances of manner only expressions than K-K, which is almost six times as much as those from K-K. This instance might point to a more varied picture than the target language pattern solely influencing K-E. However, we can also speculate that this pattern might be caused by semantics rather than a clear indication of TL transfer because the verb jump contains the meaning of upward movement, which makes the path satellite up redundant in English.

The analysis of transfer in path and manner information in the motion event descriptions revealed the following three points. First, based on the frequency counts of individual sentences across groups, it seems safe to conclude that there exists L1 transfer in late adult learners’ L2. More than half of the sen-

\[\text{(19) a. K-K-3} \quad \text{namca-ka uica-wi-lo} \quad \text{ttui-e olla-ka-n-ta.} \]
\[\text{Man-SM chair-top-LM} \quad \text{jump-CON} \quad \text{ascend-go-PRE-DECL} \]
\[\text{MANNER PATH} \]

‘A man jumps and ascends to the top of the chair.’

\[\text{b. K-E-2} \quad \text{A man \textit{jumps} on}^{18} \text{the chair.} \]
\[\text{MANNER} \]

\[\text{c. E-E-2} \quad \text{John \textit{jumps} onto a chair.} \]
\[\text{MANNER} \]

To be consistent with the prior analyses of the satellite on in this paper, I have analyzed on as a preposition containing ground information rather than path. Although there may be disagreement to this categorization, here path information containing information about the vertical trajectory of path up seems to be missing.

\[\text{Figure 5. M runs into room.} \]
5.3. Error Analysis and Pedagogical Implications for ESL Teaching

Examination of individual sentences across groups suggested that although path and manner information were both included, deviations from the target language norm existed in the L2 English sentences when compared to E-E sentences. Although some of these L2 sentences might not be considered as errors, to highlight the difference between K-E and E-E as well as to derive pedagogical implications, I termed these differences in sentence structures and lexicons as errors. Error analysis of motion event descriptions in the Korean participants' L2 English showed not only transfer of path and manner information as indicated in Section 5.2. but also transfer of grammatical sentence structure.

First, several K-E sentences included instances of using a motion verb indicating movement separately from a manner verb using the prepositional phrase headed with *by*. For example, instead of using verbs of manner such as *run* or *walk*, some of the L2 English sentences produced by the Korean native speakers separated *run* into two grammatical elements; *move* and *by running*, which was in line with their Korean expressions which separate manner from path. In other words, in K-E (L2) sentences, manner information is indicated by an adjunctive phrase *by + manner verb-ing*, which can be a result of a transfer of these Korean counterpart sentences which conveys manner information by a verb coupled with a connective particle *-e* as in *ttui-e ‘run-CON.’*
(20) a. K-K-3
  mary-nun kkayngkkayngyi-lo kaeytan-ul olla k-an-ta.
  Mary-SM one-leg-INST stair-OM ascend go-PRES-DECL
  MANNER   PATH

  ‘Mary goes and ascends the stairs by one leg.’

  b. K-E-3
  Mary walks upstairs by one leg.
  MANNER   PATH   MANNER

  c. E-E-3
  Mary hops up the stairs.
  MANNER   PATH

In (20a), kkayngkkayngyi-lo ‘by one leg’ is an adjunctive phrase, which can be omitted without influencing the grammaticality of the sentence. In (20b), the participant translates the Korean sentence structure directly into English, which results in an adjunctive phrase or subordinate construction by one leg. None of the English native speakers used an adjunctive structure.

(21) a. K-K-3
  yeca-ka pang-ulo ttuwui-e tul-e k-ass-ta.
  woman-SM room-LM run-CON enter-CON go-PST-DECL
  MANNER   PATH

  ‘A woman went and entered the room by running.’

  b. K-E-3
  A woman went into the room by run.
  PATH   MANNER

  c. E-E-3
  A woman ran into the room.
  MANNER   PATH

Another pattern of the by phrase was shown in the transfer of the Korean manner verb plus the connective particle expression into English by plus a manner verb. This again resulted in sentences, as (21b) above and (22) below.

(22) K-E-3
  A small doll walks upstairs by cranking.
  MANNER   PATH   MANNER

What is noteworthy is that even though subordinate constructions in English are more difficult to process and produce, K-E productions show many in-
stances of these constructions¹⁹. This seems to suggest that once conceptual categories are mapped onto a form in one's native language, it is difficult to change the syntactic form or structure, and this influences their second language production.

Second, the use of satellites to depict path (course followed by the figure) information seemed to cause tremendous confusion for L2 speakers. Although path information was included in the K-E productions via satellites, this was done using incorrect satellite forms. This error could be due to their L1 where path information is conveyed by a verb rather than a satellite. However, the fact that they are using a satellite itself can also be an indication that they are following the target language norm and creating a form that is non-existent in their L1. The transfer effect of L1 is evidenced not in the form, but in the semantics of the satellites that shares the semantics of Korean path verbs. The following are some of these error sentences along with their L1 counterparts. The first set in (23) consists of sentence productions using the wrong satellite and the second set in (24) consists of sentences that omit the verb entirely and only use the satellite as a main verb. (23) provides a comparison of L2 English sentences and L1 English sentences produced by native speakers of each language.

(23) K-E-3
He twisted up the cork.
Out
He jumped through bicycle rack.
up/down/back over
He cranks over the doll house.

E-E-3
He twisted the cork out of the wine bottle.
He jumped over the bicycle rack.
He cranks the doll upstairs.

(24) K-E-2
Car into garage.
She is downing stool.
A man across the street.

E-E-3
The toy car rolls into the garage.
She steps down from the stool.
A man walks across the street.

Even though the participants are using satellites to convey path information, they are treating these satellites as verbs in the second set of examples provided in (24). This is indicated by the absence of main verbs of manner. For example,

¹⁹ Indeed this difference could be partially attributed to the different modalities. English native speakers produced their text in a spontaneous language production task verbalizing the motion event. One can assume that when English native speakers had more time – for example in a written task – they may provide additional information by including an adjunct into their verbalization. The rationale for conducting a written task for the Korean subjects were to eliminate the effects of hesitation, hitches, and repair practices that made it difficult to gauge the production itself. A follow-up study where English native speakers also performed a written task could measure the possible effects of different modalities.
in the sentence *car into garage*, the manner verb is lacking.

The third and final set of errors concern the over-use of the deictic verbs *come* and *go* in K-E (L2) English productions. The use of deictic verbs *go* and *come* in the K-E sentences is illustrated below in (25).

(25) K-E
Mary *go* through to room by door.
The wall *came* to a doll.
The ball *go* into container by person.
The tennis ball *comes* into a bottle.
John *goes* over a crosswalk.

Instead of using a verb of motion such as *move* or manner verbs such as *walk* or *run*, many K-E sentences treated deictic verbs as the main verb. This can be explained as an influence from the Korean sentences where the deictic verb functions as the main verb.

In terms of lexical expressions, transfer was displayed in lexical items that had different ways of packaging information. For example, *hopping* in Korean refers to the manner of jumping up and down and does not necessary contain the use of only one leg. The use of one leg to jump is expressed by a separate phrase *han tali-Io* 'one-leg-INSTR'. This resulted in the L2 expression *The woman is hopping down the stairs using one leg*, which conveys redundant information when expressed in English.

When teaching these ESL/EFL students, it would be useful to illustrate the semantic elements in a motion event and make the students practice comparing the different preferences of path and manner expressions in the two languages: Korean and English. For example, it would be useful to explain that the un-packaging of the manner verb *run* into two elements, *go* and *by running* is a transfer from the Korean structure and not the norm in English. Emphasizing what the main verb is in each language would also be informative. These pedagogical strategies would also be applicable for learners of English who have a V-framed first language like Korean.

### 6. Conclusion

Language typology studies on motion events have largely ignored the area of second language, mainly because learners' second languages do not reflect the mastery of one language and are more likely to show a mixed and unclear pattern making it difficult to make a strong, indisputable claim. However, it would be a great loss to neglect the language pattern occurring in a large population of adult second language learners in the world. It is evident from the
current study that L2 English has features transferred from L1 that could cause interference in acquiring a second language, more strongly supporting the existence of categories of motion stamped onto the form in our mind. In the present study, the adult learners' interlanguage more closely resembles that of their L1 in terms of motion event description, showing characteristics of a V-language. Once we understand the reason lying behind the errors commonly observed in the second languages we can more effectively teach these learners how to avoid these mistakes and why they are occurring.

The first section of this paper discussed the overall pattern of motion event descriptions, specifically that of L2 English. Existence of transfer was supported by frequency analysis that revealed a statistically significant difference between the speaker's native language and L2 English and also between L2 English and the target language. Korean students used more path information only sentences when describing a motion event scene in English when compared with English native speakers. The pattern of motion event expressions in L2 English are influenced by their L1 (Korean) displayed by path only sentences comprising more than 30% of L2 productions compared to less than 10% of these sentences found in L1 English productions. The most significant finding was the pattern of L2 English productions (K-E). In Korean, path is overwhelmingly the only element expressed for motion expression description while manner is optional. This transfers into their second language, influencing L2 English productions. The tables for the frequency of path and manner elements show the gradual difference in L1 Korean, L2 English and L1 English, which supports the analysis of L2 as showing properties closer to a V-language in this case.

Close examination of error patterns in the Korean learners' L2 English revealed that many of the errors were produced by the influence of students' L1. First, there was an over-use of by-headed adjunctive phrases transferred from the Korean grammatical structure of manner verb plus a connective or a locative element plus an instrumental marker, both of which can be translated into by+ verb phrase or by+noun phrase, respectively into English. Even though K-E had both the manner of motion verb run, some chose to use the Korean structure go in by running instead of the simpler phrase run in. There was also a heavy use of separate clauses, rather than a single verb followed by path particles and prepositional phrases, which is the norm in English. Second, translating a path verb into an English satellite posed problems in choosing the more appropriate satellite, sometimes resulting in treating the satellite as a verb. Especially complicated were the notions of over in jumping over the bicycle rack and out in twisting out where several students treated the satellites as verbs. Third, the deictic verbs -- come and go which function as main verbs in Korean spontaneous event descriptions transferred into the English L2 counterparts resulting in overuse of these verbs. K-E (L2) sentences included the verb come and go
in their English sentences even when it was preferable to incorporate this information into the main verb as in *A woman goes up one stairs with hopping* instead of *a woman hops up the stairs*.

When teaching these students it would be important to focus on the grammatically different surface expressions of path and manner in English. Because English and Korean are two typologically different languages, it would be useful to compare the English manner verb + satellite construction which corresponds to the Korean (manner verb) + path verb + deictic verb construction and explain the difference so that the learners will be aware of the potential errors they are likely to make.

Regarding further studies that can be conducted, a follow-up study can be conducted by including Korean spoken data, instead of written data, for analysis. The reason for substituting written with spoken data in the Korean data collection was because the researcher believed that for the participants there would not be a great differences in the production pattern and the experiment had to be done in small groups of two to three students making it difficult to prevent them from speaking at the same time. Another candidate would be a study on the interplay between motion verbs and grammatical aspect. It would also be important to investigate the conversational practices involved in expressing motion events. Advocators for a more generalized view of language might argue that differences between languages could be compensated, by gestural displays and intonation. However, it should be noted that language typology was developed largely based on written text, and we should be aware that gestural displays and intonation serve a different function from (written) language and are more limited in the range of expressions that they can convey. For example, there is a limitation in how detailed a gesture can be in conveying manner information when compared to manner verbs. However, as Hopper & Thompson (1980) states, a complete explanation of the difference in syntactic and semantic elements between languages must include an explanation at the discourse level, if not at the gestural level. This is a task that needs to be done in a more extensive study.

There are elements of the language that was analyzed for this study, including ground or locative elements and structural aspects related to the ease of processing, which could be taken into consideration in further analysis. Clearly, more language typology studies of motion events in a speaker's second language are called for in the field of second language learning.

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20 "Phrasocentric ('sentence-level') accounts of morphosyntax can have only a provisional and incomplete validity...a fully coherence theory of language must begin at the level of discourse MOTIVATION for individual sentences. (Hopper & Thompson 1980: 295)"
References


Naigles, L. and P. Terrazas. (1998). Motion verb generalizations in English and Span-


## Appendix 1. Motion Event List

<table>
<thead>
<tr>
<th></th>
<th>Motion Event</th>
<th>Agent Visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>J rolls the car into the garage.</td>
<td>agent visible</td>
</tr>
<tr>
<td>2</td>
<td>J jumps up onto a chair.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>(J) throws keys into a basket.</td>
<td>agent not visible</td>
</tr>
<tr>
<td>4</td>
<td>M walks down the stairs.</td>
<td>toward viewer</td>
</tr>
<tr>
<td>5</td>
<td>J made the doll go upstairs using a crank.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>J crawls out of the room.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>J jumps over a bicycle rack.透支</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>M is inside the room, then suddenly outside the room.</td>
<td>no path (viewer is inside)</td>
</tr>
<tr>
<td>9</td>
<td>An apple falls into basket.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>J runs across the street.</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>J steps up onto a stool.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>J twists the cork out of the bottle.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>J runs toward M kicking a ball.</td>
<td>(viewer is near J)</td>
</tr>
<tr>
<td>14</td>
<td>M runs into room.</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>The house moves so that the doll goes inside the house.</td>
<td>agent not visible</td>
</tr>
<tr>
<td>16</td>
<td>(J) rolls a ball into container.</td>
<td>agent not visible</td>
</tr>
<tr>
<td>17</td>
<td>M steps down from stool.</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>M puts the basket up so the apple goes inside the basket.</td>
<td>agent visible</td>
</tr>
<tr>
<td>19</td>
<td>J steps into room.</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>J walks across the street.</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Paper falls into basket.</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>M is inside the room, then suddenly outside the room.</td>
<td>no path (viewer is outside)</td>
</tr>
<tr>
<td>23</td>
<td>M hops up the stairs.</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>J runs toward M kicking a ball.</td>
<td>(viewer is near M)</td>
</tr>
<tr>
<td>25</td>
<td>J throws keys into basket.</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>J jumps down from the chair.</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>J hops into the room.</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>J made the doll go downstairs using a crank.</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>J pulls the table into the room with a rope.</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>M hops down the stairs.</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>M steps out of the room.</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>J steps over a bicycle rack.</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>J rolls a ball into container.</td>
<td>agent visible</td>
</tr>
<tr>
<td>34</td>
<td>J runs out of a room.</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>M walks up the stairs.</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 2. Abbreviations

CONN : Connective
DECL : Declarative
INST : Instrumental
LM : Locative Marker
OM : Object Marker
PST : Past
PRE : Present
PRG : Progressive
SM : Subject Marker

Appendix 3. List of Korean verbs analyzed as path or manner verbs*

<table>
<thead>
<tr>
<th>Path verbs</th>
<th>Manner verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>tul-e (ka/o-ta) 'enter (go/come)'</td>
<td>mil-ta ‘push’</td>
</tr>
<tr>
<td>na (ka/o-ta) 'exit (go/come)'</td>
<td>kwulu-ta ‘roll’</td>
</tr>
<tr>
<td>olla (ka/o-ta) 'ascend (go/come)'</td>
<td>ttwui-ta ‘run’</td>
</tr>
<tr>
<td>nayye (ka/o-ta) 'descend (go/come)'</td>
<td>ket-ta ‘walk’</td>
</tr>
<tr>
<td>ttel-e-ji-ta ‘fall down’</td>
<td>tenji-ta ‘thrown’</td>
</tr>
<tr>
<td>nem-ta ‘over’</td>
<td>tolli-ta ‘twist’</td>
</tr>
<tr>
<td>kenne-ta ‘cross’</td>
<td>mol-ta ‘dribble’</td>
</tr>
<tr>
<td>karojilu-ta ‘cross’</td>
<td>cha-ta ‘kick’</td>
</tr>
<tr>
<td>hwengtanha-ta ‘cross’</td>
<td>kkul-e-tangki-ta ‘pull’</td>
</tr>
<tr>
<td>ppay-ta ‘pull out’</td>
<td>krank-ka-ta ‘crank:do’</td>
</tr>
</tbody>
</table>

* Korean path verbs describing spontaneous events mandatorily occur with deictic verbs as indicated in the parenthesis. The Korean particle -e is a connective which can roughly translated into and in English. ta is a declarative verbal suffix.

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