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Language-specificity of motion event expressions in young Korean children

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This paper examines the development of motion expressions in two Korean children. The database consists of bi-weekly to monthly recordings of spontaneous mother–child interaction in their home between ages 1:11 and 4;2. All expressions of motion, both spontaneous and caused, were analyzed following the coding system developed by Hickmann, Hendriks & Champaud 2009). Analyses include form–function relationships between the types of linguistic devices used and the components of Motion expressed (e.g. Path, Manner, Cause), as well as the semantic density of motion-relevant information within the clause. The results were then compared to those of French and English learners reported in Hickmann et al. (2009).

Korean is typologically a *verb-framed* language similar to French (Talmy, 2000), but it allows serial verb constructions and postpositional markers. Results show that from two years of age, Korean children use these syntactic features and produce semantically denser utterances than French children. Moreover, Korean children often express Manner of Motion with adverbs, another characteristic feature in the adult Korean grammar. These findings support the claim that language-specific grammar influences children's expression of Motion events from very early on. In addition, the present study shows that significant variation exists among languages of the same type.

Keywords: expression of motion events, Korean, spatial semantics and syntax, language-specificity and acquisition

1. Introduction

The goals of this paper are twofold: to examine the morpho-syntactic development of Motion expressions in Korean learners, and to compare it to similar data concerning French and English learners reported in Hickmann, Hendriks and Champaud (2009). Korean grammar has several language-specific features that directly

relate to the way Motion events are expressed. As will be described below, these features include serial verb constructions, postpositional case markings, and the prevalent use of Manner adverbs. These language-specific features have not been discussed in the literature on the development of Motion expression in Korean, and thus are of interest as to when and how Korean learners acquire them. Based on Hickmann et al.'s (2009) findings (see Section 1.3), it is expected that these language-specific features will appear early in children's language, as early as two years of age. And if this is so, we should find significant crosslinguistic differences across Korean, French and English learners in the way young learners of these languages express Motion events.

After a brief introduction, the language-specific grammatical features relevant for expressions of Motion events in Korean are presented along with a set of predictions about how these features will affect early acquisition of Korean and how Korean acquisition will differ from the acquisition of French. Then, the development of expressions for Motion events is examined based on the naturalistic data collected longitudinally from two Korean children (from 1;11 to 4;2). The results are systematically compared with those of French- and English-learning children reported in Hickmann et al. (2009). Finally, a summary and discussion conclude the paper.

1.1   Adult grammar for expressing Motion Events

Most languages can be categorized typologically as *satellite-framed* or *verb-framed* (Talmy 1985, 2000). The division between these two types has to do with which element is typically used to express the Path of Motion. In *satellite-framed* languages, because the Manner of Motion is typically encoded in main verbs, Path is expressed elsewhere in the clause, e.g. in prepositions and particles. Thus, in English and German, the main verbs *runs* and *läuft* in (1a) and (1b) respectively express Manner while the prepositions, *up* and *hinauf* express Path.

(1)   a.   English: *John **runs** up the staircase.*
      b.   German: Johann **läuft** *die Stiege hinauf.*
                     John runs the staircase up.

In *verb-framed* languages, Path is typically encoded in main verbs. Thus, in Spanish and French, the main verbs, *sube* and *monte* respectively (2a & 2b), express the path of 'going up.' In these languages, Manner is typically but optionally expressed elsewhere in the clause (e.g. gerunds such as Spanish *corriendo* or French *en courant* in 2a & 2b).

(2) a. Spanish: *Juan **sube** las escaleras (corriendo).*
     b. French: *Jean **monte** l'escalier (en courant).*
               John goes.up the staircase (running).

There is much variation among the languages of the same type, however (Berman & Slobin 1994; Özçalışkan & Slobin 1999; Choi 2009). For example, verb-framed languages differ in the degree to which Path is highlighted. In their comparison between Turkish and Spanish (both considered to be Path languages), Özçalışkan and Slobin (1999) found more frequent and diverse Path verbs in Turkish than in Spanish when speakers describe motion events. Similar differences have been reported for Korean and Spanish speakers (Choi 2009). Choi (2009) elicited descriptions of Motion events from Korean and Spanish speakers by showing them video clips of spontaneous motion (e.g. someone walking/running into/out of the room). Although Korean is a verb-framed language, thus typologically the same as Spanish, Korean speakers expressed Path of Motion more frequently than did Spanish speakers and they did so in the main verb.

Korean grammar has distinct features that set it apart from Spanish and French. First, Korean is an SOV language. Second, as mentioned earlier, it employs serial verb constructions and postpositional markers. Also, in the spoken register, the use of adverbs denoting Manner of Motion is quite prevalent. In this paper, based on previous findings on the development of spatial expressions, I hypothesize that Korean children attend to these distinct grammatical features and begin to use them in their expression of Motion events from an early period. But before I examine children's language, I provide some further description of these aspects of Korean grammar.

1.2 Korean grammar for expressing Motion event

1.2.1 *Serial Verb Constructions*

In Korean serial verb constructions (SVC), two or more verbs can be serially strung together with the connective *-e* (this connective *-e* does not have any semantic content, it is not a conjunction, and it is solely used for linking verbs, see Chung 1993). Verbs in SVC are considered to have an equal status syntactically (Chung 1993; You 1996).

(4) John-i   san-ul   kel-e   nem-e   o-ass-ta.
     John-subj mountain-obj walk-conn cross-conn come-past-declarative
                          Manner   Path   Path: deixis
     ('John came by walking and crossing over the mountain.')

In (4) above, all three verbs, *kel-* 'walk' (Manner), *nem-* 'cross' (Path) and *o-* 'come,' are verb roots denoting different aspects of a single Motion event, and the SVC presents it as such. Of the three verbs, the Path verb, *nem-* (the trajectory of 'crossing'), is the most critical verb in the sentence and it is obligatory as Path is the core semantic element for expressing motion. Thus, the verb *nem-* can be the final verb of the sentence carrying inflections for tense and mood. The deictic verb, *o-* 'come,' is typically present as it highlights the process of spontaneously moving along the specified path toward the speaker, but it is optional in sentence (4). The Manner verb, *kel-* 'walk' in (4) is also optional.

There are no restrictions about how many verbs can be strung together. Thus, in (5), four Motion verbs are connected together in one verb phrase: a Manner verb (*kwul-* 'roll'), and three Path verbs (*tteleci-* 'fall,' *nayli-* 'descend,' and *o-* 'come').

> (5) tol-i   san-eyse   kwull-e tteleci-e nayli-e   o-ass-ta.
>   stone-SUBJ mountain-from roll-CONN fall-CONN descend-CONN Come-PAST-
>   Manner Path   Path   Path: deixis
>   ('A stone rolled down, falling and descending.')

Examples (4) and (5) above refer to spontaneous motion where the subject (or the actor) moves by itself or moves without explicit causes. However, in the expression of caused motion, a deictic verb is not used. A transitive or causative Path verb alone is sufficient as in (6).[1]

> (6) John-i   phyenci-lul pongthwu-ey kkwuki-e neh-ess-ta.
>   John-SUBJ letter-OBJ envelope-at/in crumple-CONN put.in-PAST-DECL
>   ('John crumpled the letter into the envelope.')

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1. When caused motion involves deixis (e.g. *John threw the ball to me; John pulled the table toward me*) (note that John himself is not moving in these cases), the direction is encoded by 'Ground NP + postpositional marker'. A deictic verb is typically not used in this context:

John-i   kong-ul na-hanthey tenci-ess-ta.
John-SUBJ ball-OBJ 1st person-to throw-PAST-SE
('John threw the ball to me.')

John-i   uyca-lul nay-ccok-ulo   kkul-ess-ta.
John-SUBJ chair-OBJ my-side-toward pull-PAST-SE
('John pulled the chair toward my side.')

When a caused motion verb occurs with a deictic verb, it typically means that the agent caused the specified motion and at the same time spontaneously moved toward/away from the speaker.

John-i   uyca-lul nay-ccok-ulo   kkul-ko   o-ass-ta.
John-SUBJ desk-OBJ my-side-toward pull-CONN come-PAST-SE
John came toward me pulling the chair (toward me).

In Korean, verb stems are either inherently transitive or intransitive (with few exceptions), unlike English where the same verb stem can be used either intransitively or transitively (e.g, *roll*, *slide*). Thus, in Korean the verb *nehta* ('put something in or on loosely') in (6) is a mono-morphemic transitive verb that incorporates both Cause and Path of Motion.[2] Verbs listed in (7) are some of the commonly used transitive caused motion verbs in Korean. (*-ta* is suffix for a citation form for a verb.)

(7)   Transitive caused motion verbs:
       kki-ta ('put something tightly in/on a base');
       kkoc-ta ('put an elongated object tightly into/onto a base');
       nwulu-ta ('push something').

Korean also offers a morphological process that changes transitivity of the verb: Causation can be expressed by adding a bound morpheme, *-(C)i*, after the stem. This process converts an intransitive verb into a transitive one, or a transitive verb into a causative one,[3] as shown in (8):

(8)   Use of bound morpheme *-(C)i-* to mark caused motion.
       tol-ta, intransitive ('to turn') — *tol-li-ta*, transitive ('turn something');
       hulu-ta, intransitive ('to flow') — *hul-li-ta*, transitive ('to spill something')

1.2.2   *Postpositional markers*

In Korean, postpositional markers are used to denote the location or the starting/ending point of a Motion event, as shown in the following examples (9–12):

(9)   John-i   mwul-**ey**   ppaci-ess-ta.
       John-SUBJ water-**at/in** drown-PAST-DECL.
       ('John drowned in the water.')

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2. Verbs such as *neh-ta* and *kki-ta* are translated as 'put in loosely' and 'put in/on tightly.' It should be noted, however, that the 'loose' or 'tight' dimension of the verb meanings points to the nature of Path between the Figure and Ground, not a choice of Manner of action. For example, when one puts an apple in a bowl, for which the verb *nehta* 'put in loosely' is used in Korean, the 'looseness' points to the spatial relationship between the Figure and the Ground which is loose. Similarly, when one puts one Lego piece on another, the verb *kkita* in Korean points to the spatially 'tight' relationship between the Figure and the Ground. Thus, the loose/tight dimension in these verbs refers to a type of Path. Following these analyses, verbs such as *nehta* and *kkita* are analyzed to express [Cause + Path].

3. Korean also has periphrastic causative constructions. One adds *-key hata* ('-Connective do') to the verb stem. Thus, for the verb stem *ttwui-* ('run'), the periphrastic causative phrase would be *ttwui-key hata*. 'make run.' In the present data, the children rarely used this construction.

(10) *John-i   kongwon-**eyse** ttwui-ess-ta.*
      John-SUBJ park-at   run-PAST-DECL
      ('John ran in the park.')

(11) *John-i   hakkyo-**eyse**   kel-e   o-ass-ta.*
      John-SUBJ school-**from/at** walk-CONN come-PAST-DECL
      ('John walked from school.')

(12) *John-i   hakkyo-**kkaci** kel-e   ka-ss-ta.*
      John-SUBJ school-**till**   walk-CONN go-PAST-DECL
      ('John walked to school.')
      (*hakkyo-kkaci* implies that the end point was no further than the school.)

These markers have clear morpheme boundaries and the forms are constant. The list in (13) shows some typical postpositional markers with corresponding functions.

(13) a. Location of Motion: *-ey, -eyse*
      b. Staring point of Motion: *-eyse*
      c. Endpoint of Motion: *-ey, -eyta, -kkaci, -(u)lo, -hanthey*

Notice that some of these markers fulfill more than one function. For example, *-eyse* can refer to a location (10) or to a starting point (11), and *-ey* can be interpreted as referring either to a location or to an endpoint (9), so that both can be ambiguous. The present coding system of these markers will be described in Section 3.3.1.

1.2.3 *Manner adverbs*

In Korean, Manner adverbials are prevalent in the expression of Motion events, particularly in the spoken register. These adverbs describe different dimensions of Manner, e.g. degree of intensity and speed (14–17). Some of these adverbs may be considered 'mimetic,' but these forms are conventionalized and are not ad-hoc pantomimic forms.

(14) *ppalli* denotes speediness, e.g. *ppalli ota* ('come quickly').

(15) *wheek* denotes speedy but light motion, e.g. *wheek nalakata* ('fly away lightly but speedily').

(16) *mak* denotes a relatively speedy motion and/or motion with brute force, e.g. *mak ttwuita* ('run fast with force').

(17) *phwungdeng* describes jumping into water in a brisk manner with some noise, e.g. *pwungdeng ppacita* ('jump/drown into water with some noise').

1.3 Learning to express motion events: Previous findings and predictions

Children acquire language-specific properties of Motion expressions virtually from the beginning of language acquisition (Choi 2006, 2009; Choi & Bowerman 1991; Bowerman, de Leon & Choi 1995; Hickmann et al. 2009). Choi & Bowerman (1991) examined syntactic uses of Motion verbs in English- and Korean-learning children from longitudinal naturalistic data and found language-specificity from the single word stage (as early as 17 months). For example, English-learning children use the same Path particles *in/out* for both spontaneous and caused-motion (e.g. *come/put **in***), whereas Korean-learning children restrict their use of intransitive verb forms to just spontaneous motion and do not over-extend it to caused motion (and apply the same restriction to transitive verb forms which they use only for caused motion).

In recent studies, Hickmann and her colleagues (Hickmann 2006; Hickmann & Hendriks, 2006; Hickmann et al. 2009) examined the relative density of motion information (e.g. Cause, Path, Manner) per clause in speakers' utterances across languages. Production data elicited in experimental studies (Hickmann 2006) showed that English learners generally provided information more compactly (i.e. higher utterance density) than French learners. Furthermore, English learners mentioned information about Manner more frequently than did French learners, particularly using the compact Verb + Particle (Manner + Path) structure of English. In contrast, French-learning children primarily used verbs to express Path, and thus showed lower utterance density than English speakers. These crosslinguistic differences could be observed from three years of age, the youngest age group they tested in the elicitation studies.

In a more recent study, Hickmann et al. (2009) analyzed corpus-based longitudinal naturalistic data of English and French acquisition to examine *when* the above-mentioned language-specific features start to appear. The database included regular recordings of spontaneous speech from two to four years of age (on average). The results showed crosslinguistic differences from the earliest phase recorded. From two years of age, English-learning children showed higher semantic density than French-learning children using verb+satellite constructions to encode Cause, Manner and Path. In contrast, young French learners mainly encoded Path (and/or Cause) of Motion in the verb, and rarely used other devices (e.g. gerund) to express Manner.

Adopting the methodology developed by Hickmann and her colleagues, the present study examines the development of Motion expressions in Korean-learning children. In line with Hickmann et al.'s (2009) findings, I expected that Korean children should begin learning the language-specific features from early on. In particular, I argue in this paper that Korean offers morpho-syntactic and

lexical devices that are salient for young learners, who should therefore be able to start using these devices from early on to express Motion events. If this is so, their grammar for Motion events will be substantially different from French and English learners. Of particular interest is the extent to which learners of Korean and French are similar to or different from each other, since the two target languages are of the same type (i.e. verb-framed languages). If language-specific features influence children's expressions of Motion events from an early stage (Hickmann et al. 2009), the following specific predictions can be made on similarities and differences between Korean and French learners:

Prediction 1: While both Korean and French children typically express Path in verb roots (as they are both verb-framed languages), Koreans make more frequent use of 'other' devices, i.e. postpositional markers and Manner adverbs.

Prediction 2: Korean encodes Path in verb roots and can encode both Path and Manner as well as several types of Path (direction, deixis, boundary crossing) using the serial verb construction. In contrast, French allows one main verb for either Path or Manner. Given that Korean allows multiple encoding in verb roots, it is expected that Korean children will encode Path in verb roots more so than French children.

Prediction 3: The Korean grammar offers a variety of devices to express various semantic components of Motion events (i.e. verb roots, postpositional markers, Manner adverbs) in a single clause. Furthermore, these devices, particularly postpositional markers and mimetic Manner adverbials, are perceptually salient, and thus will be learnable from an early stage. If this is the case, Korean learners will use diverse devices per clause to express different aspects of Motion and thus will show higher utterance density than French children.

2.   Database and methodology

2.1 Database

In the present study, longitudinal naturalistic data of two Korean children, TJ and JW, are analyzed. Both grew up in monolingual homes where the parents spoke only Korean to them. The environments outside the home were different between the two children, however. JW was growing up in Seoul, Korea, while TJ was growing up in Southern California. It should be noted, however, that TJ's immediate environment was monolingual Korean: His parents lived in a community where many Koreans lived, and his father's workplace was located within a Korean community.

Table 1. Summary of database for two Korean children

	Ages From	Ages To	MLU (in word)	Number of utterances	Number of sessions
Child: TJ					
Period 1	1;10.17	2;4.28	1.64	183	9 (30 min)
Period 2	2;6.0	2;11.20	1.83	361	8 (50 min)
Period 3	3;0.17	3;5.18	2.35	379	6 (50 min)
Period 4	3;6.11	4;2.26	2.80	327	7 (50 min)
Total				1250	30 (22 hours total)
Child: JW					
Period 1	1;11.4	2;5.22	1.91	202	9 (20–30 min each)
Period 2	2;6.4	2;11.27	2.37	402	13 (20–30 min each)
Period 3	3;0.7	3;5.15	2.9	504	12 (20–30 min each)
Period 4	3;6.10	4;2.0	3.32	482	12 (20–30 min each)
Total				1590	46 (25 hours total)

All recordings took place in the child's home. As summarized in Table 1, spontaneous speech data of the two children were collected from the age 1;10/1;11 till 4;2. TJ's speech was recorded once every 3–4 weeks, for about 50 minutes at each session. JW's speech was recorded twice a month, for about 20–30 minutes per session. Thus the amount of recording time is comparable for the two children. In TJ's sessions, the interactions occurred between the mother, the investigator, and TJ, whereas in JW's, they were solely between the mother and JW.

In this analysis, developmental periods are defined in terms of age. The age periods observed in the present study are comparable to those in Hickmann et al. (2009), where four developmental periods were identified by MLU. However, it is difficult to compare Korean children with English and French children by MLU because the morphology of Korean is quite different from English and French. Korean is an agglutinative language that employs bound morphemes for case marking, tense, mood, and modality. Thus, MLUs (in morphemes) in Korean learners are likely to be much higher than English and French learners. Nonetheless, I compared the two Korean children by calculating their MLUs for each age period. The results are shown in Table 1. The Table shows that TJ's grammatical ability (as measured by MLU in words) starts at a lower level than JW. Also, TJ's grammatical growth was slower than JW over the four age periods. In the present analysis, we will see how the differences in MLU between the two children affect how the express Motion over time.

The two Korean children are compared with each other and across languages (Korean, French, and English) on the basis of age periods. It should be noted that Hickmann et al. (2009) did not find any developmental changes across the four periods in their analyses of Motion event expressions (those analyses that are relevant to the present study). All periods were thus collapsed in their report of analysis. In the present study, comparisons between the two Korean children are made by periods only when developmental changes are observed in these children. When changes did not occur, all age periods are collapsed for comparison.

2.2 Coding

All of the mother–child verbal interactions were first transcribed in Korean. All utterances produced by the two children to talk about Motion were then identified and romanized for analysis using the CLAN program (expressions referring to static situations were excluded from the analysis). Each clause expressing Motion was coded as follows:

1. Type of semantic component of Motion encoded in the clause, including:
   a. Path of Motion: direction (e.g. *up/down*), boundary crossing (e.g. *into*), deixis (e.g. *come*);
   b. Manner of Motion (e.g. *run*) including change of posture (e.g. *sit down*);
   c. Manner of Cause of Motion (e.g. *push*);
   d. Cause of Motion (e.g. *put*) (see Sections 3.2–3.4 for examples in Korean).
2. Type of linguistic device used for each semantic component expressed in the clause:
   (a) Verb Root or (b) Other Device. Verb roots included the verbs in the single verb construction as well as all verbs in the SVC constructions. When a component of Motion was expressed by Other devices, their grammatical type was also coded, i.e. as postpositional marker, adverb, or gerund (see Section 3.3 for more detail).
3. Utterance Density (UD). Following Hickmann et al. (2009) utterance density was assessed for the number of **types** of semantic component expressed in the clause (see Section 3.4 for more detail and examples). It should be noted that counting **types** of semantic components rather than tokens is a 'conservative' approach that was adopted so as not to inflate counts for one or another semantic type in crosslinguistic comparisons.
4. Type of transitivity of the clause. Each clause was coded for whether the Motion referred to a Caused or Spontaneous Motion. Spontaneous motion included both 'voluntary' and 'involuntary' motion (see Section 3.4 for more detail).

2.3 Analysis

To test Predictions 1–3, the following analyses were conducted:

a. The distribution of Motion information in the clause, i.e. whether semantic components of Motion (e.g. Path, Manner and Cause of Motion) are expressed in 'verb alone' or in 'verb and other devices.'
b. The form–function correspondence between specific semantic components (i.e. Cause, Path, Manner, Location) and syntactic types (i.e. Verb vs. Other devices).
c. The level of utterance density, i.e. how many *types* of semantic component are encoded in a single clause.

3. Results

3.1 Distribution of motion information: 'Verb alone' vs. 'verb and other devices'

To test Prediction 1, children's Motion expressions were examined in terms of whether the semantic components of Motion were encoded in 'verb alone' or 'verb+other devices.' For example, in (18) and (19) TJ and JW respectively expressed Path and Manner of Motion only in verb roots and did not use any other devices.

(18) *ike* ***tteleci**-ess-e.*   (TJ P2)
         this fall-PAST-SE
         ('This fell.')

(19) *JW-i*   ***ttwui**-e*   ***na**(-0)[4] **o**-ass-e.*   (JW P1)
         JW-SUBJ run-CONN exit   come-PAST-SE
         ('JW came out running.')

In (20) and (21) the two children employed verbs as well as other devices to express different aspects of Motion. In (20) TJ used both a verb (*kki-* 'fit tightly') and a postpositional marker (*-eyta*) marking the endpoint of Motion. In (21) JW used a verb (*neh-* 'put in loosely') and two other devices, a postpositional marker (*-ey*) denoting location/endpoint and a Manner adverb (*phwuk* 'carelessly').

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4. When the stem ends in a vowel, the Connective *-e* is not realized phonologically, or is sometimes phonologically fused with the final vowel of the stem.

(20)   *ike yeki-**eyta kki**-ess-eyo.*   (TJ P3)
      this here-to   tight-fit-PAST-SE
      ('I fit it tightly on here.')

(21)   *ssuleykithong-**ey phwuk**   neh-ess-e.*   (JW P2)
      garbage-can-at/to carelessly put.in-PAST-SE
      ('I put (it) in the garbage can carelessly.')

Figure 1a shows the proportions of 'verb alone' vs. 'verb+other' structures in the speech of each child and how the proportions changed over time (Periods 1&2 vs. Periods 3&4). (Periods were collapsed because of relative lack of difference between them, e.g. Periods 1 & 2). In all phases, both children encoded Motion in verbs alone more frequently than in verb+other. But as they became more advanced in language, they increasingly used the 'verb+other' structure. More specifically, there were noticeable increases of postpositional markers and Manner adverbs in both children's speech from Period 2 to Period 3 (i.e. between 3;0 and 3;5): In JW's speech, the use of other devices almost doubled in frequency (from one to two out of every five utterances) and in TJ's speech it tripled. However, the two children differed in the degree to which they used these structures. In particular, during Periods 1 & 2, TJ used verbs alone much more than JW did to express Motion. In fact, during these periods TJ used verbs almost exclusively to express Motion. And although he increased his production of other devices to express Motion in Periods 3&4, TJ's use of the 'verb+other' construction was still lower than JW's in Periods 1&2. Given the MLU differences between the two children, TJ's patterns may be the precursors of those we see in JW's speech.
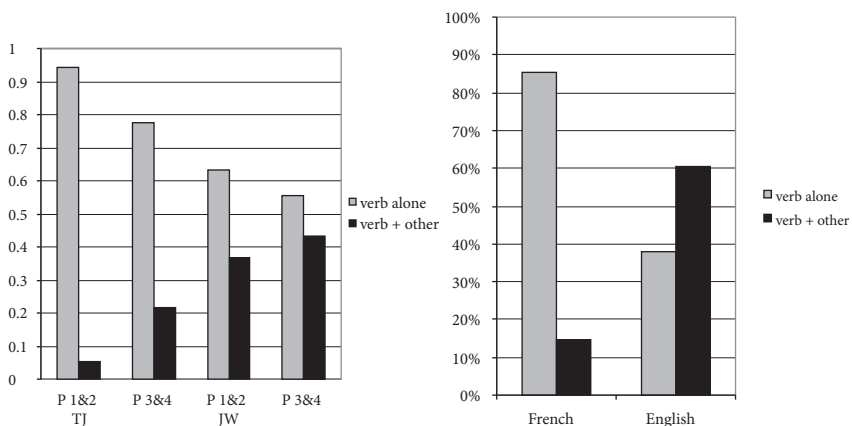

Figure 1.   Use of Verb Alone vs. Verb + Other Devices in two Korean children at two developmental phases (Periods 1 & 2 vs. Periods 3 & 4) (Figure 1a) and in French and English children as reported in Hickmann et al. (2009) (Figure 1b).

We now compare the Korean data with the French and English data reported in Hickmann et al. (2009) (shown in Figure 1b). Overall, the Korean learners' distribution of 'verb alone' vs 'verb+other' falls somewhere between those of French and English learners: Korean children used the 'verb+other' construction more frequently than French learners but less than did English learners (conversely, using 'verb alone' constructions less frequently than French learners but more than English learners). This language-specific pattern was present from Period 1 in JW and began in Period 2 in TJ. These results satisfy Prediction 1: *While both Korean and French children typically express Path in verb roots, Koreans make more frequent use of postpositional markers and Manner adverbs.*

3.2 Semantic content of motion expressed in verb

In this section, Prediction 2 is tested: *Korean being a Path language and having SVCs, Korean children will encode Path most frequently in verb roots.* The issue of how often Path is expressed in the verb is interesting because Path can be encoded in the verb and/or in other devices (e.g. prepositions in French and English, and postpositional markers in Korean). Furthermore, the verb root does not always encode Path and can encode just Manner (e.g. *run*, *courir*). Following Hickmann et al.'s (2009) coding system, all Motion verbs were coded for their semantic content in relation to both spontaneous and caused motion: (a) Path of motion denoting direction/deixis of motion or boundary crossing, (b) Manner of motion including change of posture, (c) Manner of causing motion, and (d) Cause of Motion. Here are some examples in Korean for each type.

(22) a. Path of Motion
        – For spontaneous motion:
           direction: *olla-kata* 'ascend-go,' *naylye-kata* 'descend-go'
           deixis:[5] *ota* 'come'
           boundary crossing: *tule-kata* 'enter-go,' *na-kata* 'exit-go'
        – For caused motion:
           kkita 'fit tightly in/on'
           ppayta 'take out/off from a tight-fit relation'
           nehta 'put x in loosely, encircle x loosely (e.g. large ring on a thin pole)'
           kkocta 'put a stick-shaped object into a base'
     b. Manner of spontaneous motion: *ttwuita* 'run,' *naluta* 'fly'
        Change of posture: *ancta* 'sit down,' *ileseta* 'stand up'

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5. Following Hickmann et al.'s coding system, the verb *kata* 'go' was not included in the analysis, as it is often used as a neutral verb of motion and does not refer to particular direction.
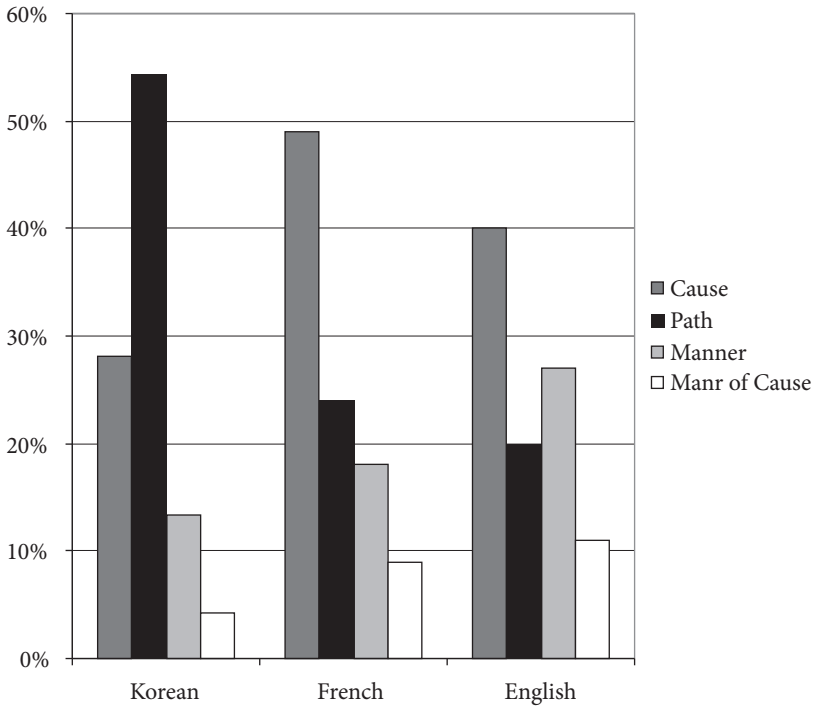
Figure 2. Semantic components of motion expressed in verb roots in Korean, French, and English learners

c.   Manner of causing motion: *milta* 'push,' *ppwulita* 'sprinkle'
d.   Cause of motion: *kacyekata* 'bring/take'

The proportions of different types of semantic components for the two Korean children as well as for the French and English-learning children from Hickmann et al. (2009) are shown in Figure 2. In this figure, the results of the two Korean children are collapsed for all periods, because there were no changes across the four periods and there were almost no differences between the two children in the way they expressed different semantic components of Motion in verb roots.

     As is apparent from Figure 2, Korean children differed strikingly from both French and English learners: of the four semantic components of Motion (Cause, Path, Manner, Manner of Cause) the two Korean children expressed Path most frequently in the verb (54% Korean) as compared to French and English learners. As discussed earlier, this is probably due to (a) the predominant (often obligatory) presence of Path verbs in Motion event expressions in Korean, and (b) SVCs that allow both Manner and Path as well as multiple Path verbs (e.g. direction + deixis) to be strung together, particularly in expressing spontaneous motion (see examples (4) and (5) above). Some examples of [Path verb + Path verb] from the

children's speech are shown in (23) to (25). In (23) JW connects two intransitive Path verbs (a directional verb and a deictic verb), *nayli-* 'descend' and *o-* 'come.' In (24) TJ does so similarly with an intransitive directional verb, *na-* 'exit' and a deictic verb, *o-* 'come.' In (25) JW connects one transitive Manner+Path verb (*kkul-*, 'pull') with another transitive Path verb (*olli-* 'raise').

(23) *emma-hako   nayli-e   o-ass-eyo.*[6]   (JW P2)
     mommy-with descend-CONN come-PAST-SE
     ('(I) came down with Mommy.')

(24) *ili   na(-0) o-a.*   (TJ P3)
     here exit   come-SE
     ('Come out here.')

(25) *mwe   kkul-e olli-ess-e.*   (JW P3)
     something pull   raise-PAST-SE
     ('Pulled something and raised (it).')

As for Manner of Motion, Korean children were similar to French in that they produced Manner verbs less frequently than Path verbs (18% French, 13% Korean). However, the difference in proportion between Manner and Path verbs was much larger in Korean children (54% Path vs. 13% Manner in Korean; 24% Path vs. 18% Manner in French). Furthermore, of the three languages, Korean children expressed Manner in the verb proportionally least frequently (27% English, 18% French, 13% Korean). In the next section, we will examine whether Korean children express Manner in other devices.

   Notice that the French and English-learning children expressed Cause of Motion more so than did the Korean children. This difference needs to be examined further since the semantic component of Cause depends on the context: Cause of Motion is present only in transitive events where an agent causes an entity to move. Thus, the frequent expression of Cause of Motion may simply result from sampling (more occurrences of transitive events), whereas Path and Manner of Motion are present in both transitive and intransitive events. Therefore, to test Prediction 2 more appropriately, a second calculation involved removing the expression of Cause and examining only the proportions of Path and Manner.[7] The same patterns of crosslinguistic differences as above were obtained: of the three

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6. *Nayly-e ota* (descend-come), *oll-a ota* (ascend-come), *tul-e ota* (enter-come), *na-0 ota* (exit-come) are frequent SVCs in adult language. The two children used these SVCs early but they also produced non-frequent SVCs as well.

7. It would be interesting to examine the frequencies of Path and Manner for intransitive vs. transitive sentences, but it is beyond the scope of this paper.

semantic components (Path, Manner and Manner of Cause), the Korean children expressed Path most frequently in the verb (76% Korean) as compared to French and English learners (47% French, 33% English), whereas they expressed Manner least frequently (24% Manner & Manner of Cause combined in Korean) than the learners of the other two languages (53% French, 67% English). The results of the second analysis also support Prediction 2.

3.3 Semantic content of motion expressed in other devices

In the present Korean data, 'Other' devices consist mostly of postpositional markers and adverbs (a third type was the gerund, which was rarely used by the two children). The following are some examples from the data for each type of device.

3.3.1 *Children's uses of postpositional markers*
The two Korean children used the following postpositional markers:

> (26) *-ey* ('to/at/in/on/under')
> *-(ey)ta* ('to')
> *-hanthey* ('to/at an animate being')
> *-(u)lo* ('toward')
> *-kkaci* ('till/until')
> *-eyse* ('from/at')

Among these markers, the two children used *-ey* and *-(u)lo* most frequently (see Table 2). As described earlier in Section 1.2.2, *-ey* can refer to either location (27) or endpoint of Motion that involves boundary crossing (28). *-Eyse* can also be ambiguous: it can refer to the location in which Motion is taking place (29) or to its starting point (30).

> (27) *emma-ka   uica twui-ey   swum-ess-e.*   (Location)
> mommy-SUBJ chair behind-at hide-PAST-SE
> ('Mommy hid behind the chair.')

> (28) *emm-ka   pang-ey tul-e   ka-ss-e.*   (Path)
> mommy-SUBJ room-at enter-CONN go-PAST-SE
> ('Mommy went into the room.')

> (29) *nay-ka hakkyo-eyse nemeci-ess-e.*   (Location)
> I-SUBJ school-at   fall.down-PAST-SE.
> ('I fell down at the school.')

> (30) *hakkyo-eyse cip-kkaci   ttwui-e   o-ass-e.*   (Path)
> school-*eyse* house-until run-CONN come-PAST-SE.

('(I) ran from school to the house.')

Following Hickmann et al.'s (2009) coding system, unambiguous uses of these markers were coded either as Location or as Path, i.e. when they clearly denoted a general location (27 & 29 above) or the start/end point of Motion (28 & 30). In some cases, their function was ambiguous (particularly in the case of *-ey*) and they were coded as Location.

3.3.2   *Adverbs expressing Manner of Motion*

Examples 31–33 illustrate the children's uses of Manner adverbs. In (31) JW uses the adverb *ppalli* 'quickly.' In (32) JW says *ppeng* to express some crude aspect of the way the falling motion occurred. In (33) TJ uses *mak*, a word commonly used to express actions with intensity.

(31) ***ppalli*** o-a.   (JW P2)
      quickly come-SE.
      ('Come quickly.')

(32) *kunyang **ppeng** tteleci-ess-e.*   (JW P3)
      just   crudely fall-PAST-SE.
      ('(It) just fell in a crude fashion.')

(33) ***mak***   *ccilum-yen maktayki-ka pwusecye*   (TJ P2)
      carelessly poke-if   stick-SUBJ   break
      ('If (you) poke with intensity, then the stick will break.')

3.3.3   *Proportions of location, path, and manner expressed in other devices*

Figure 3a summarizes the distribution of Location, Path, and Manner encoded in postpositional markers or adverbs for the two children and how they changed over time (from Periods 1&2 to Periods 3&4). As this figure shows, the two children initially differed in their use of other devices to express motion information. In Periods 1 & 2, TJ primarily used the general locative marker *-ey* to express Location, whereas JW used a variety of markers (e.g. *-ey*, *-(u)lo*), expressing either Location or Path.

In both children's speech, the proportion of Manner adverbs increased from the early phase (P1 & P2) to the later phase (P3 & P4). More specifically, they increased considerably from Periods 2 to Period 3: JW started using them at 2;2 (Period 1), but from Period 2 to Period 3, he almost tripled his use of Manner adverbs. TJ took a little more time: he started using them from 2;9 (Period 2), but by Period 4 he used them at a similar rate as JW. Overall, by Period 4, the two children expressed Location, Path and Manner with comparable proportions (although TJ still expressed Location more often than JW).
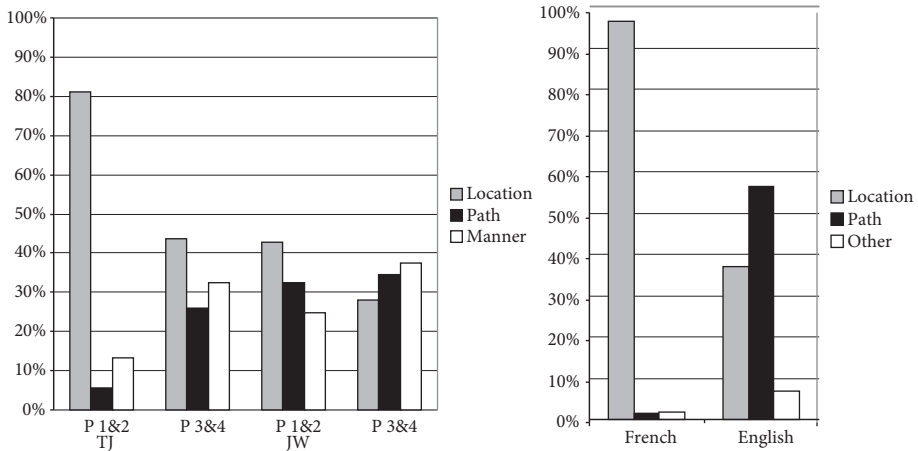
Figure 3. Distribution of Location, Path and Manner in Other Devices in TJ & JW at two developmental phases (Figure 3a) and in French and English children reported in Hickmann et al. (2009) (Figure 3b)

Figure 3b summarizes the French and English data reported in Hickmann et al. (2009). A striking difference between Korean and French/English is the extent to which Manner of Motion was encoded in other devices. The Korean children expressed Manner of Motion far more frequently using other devices (i.e. adverbs in the case of Korean) than French- or English-learning children did. It should be noted that the category 'Other' in Figure 3b includes the expression of Manner. The proportions of 'Other' are quite low in both French and English and among them those that express Manner are almost non-existent in those languages (confirmed by Hickmann, personal communication). These data, taken together with the data on verb roots for French and English shown in Figure 2 above (cf. Figure 15.2 in Hickmann et al., 2009), when children learning French or English express Manner, they do so mostly by means of verbs and rarely by means of other devices outside of the verbs (in contrast to Korean children).

In addition, a comparison of Korean with each of the other languages shows that the two Korean children expressed Location far less frequently than the French children (except in TJ Periods 1 & 2). Regarding the expression of Path, the two Korean children fell between French and English learners, as they expressed Path more frequently than French children but less frequently than English-learning children. Again, one exception was TJ's usage of Location and Path in Periods 1 & 2, which was similar to that of French children. Given TJ's lower MLU at the early phase, it is possible that young Korean children behave like children learning French, another verb-framed language (see Section 4 for further discussion). Overall, however, the data support the second part of Prediction 1, namely that

Korean children encode Motion (i.e. Path and Manner) outside the verb root more frequently than French children.

3.4 Utterance density

In this last analysis, the level of utterance density (UD) and its development over time are examined in the two Korean children. Since Korean grammar offers a variety of devices to express Cause, Path and Manner of Motion in a single clause, it was predicted that *Korean learners would show a higher utterance density than French children* (i.e. Prediction 3). Following Hickmann et al.'s (2009) coding system, the number of *types* of semantic component expressed was counted per clause. The types included Cause, Path, Manner of Motion, Manner of Cause of Motion (as in Hickmann et al., Location was not included in this analysis). The UD analysis for Korean is illustrated in Examples (33) to (35).

(33) *emma   an o-a.*   [Path] = UD1 (TJ P1)
       mommy not come-SE.
       ('Mommy is not coming.')

(34) *yelsoi-nun kki-e.*   [Cause+Path] = UD2 (TJ P4)
       key-TOPIC insert.tightly-SE
       ('Keys are inserted tightly')

(35) *pwul-i   mak   sosa   olla*   [Manner+Manner+Path+Path] = UD2
       fire-SUBJ intensely burst.up ascend   (JW P2)
       ('The fire is intensely bursting upward.')

The two Korean children showed a similar pattern in terms of the number of semantic *types* of information expressed per clause. In addition, the pattern was quite constant across the four developmental periods. Hickmann et al. (2009) also found consistency in utterance density in their English and French data. Thus, in Figure 4, all Korean data are collapsed and are compared with the French and English data reported in Hickmann et al. (2009). First, a difference in UD patterns between Korean and French children is apparent. As predicted, *Korean children produce utterances that are semantically denser than those of French children*. More specifically, the Korean children produced UD2 much more frequently (43%) than the French children (20%). At the same time, they produced UD1 at a much lower rate (53% Korean vs. 7% French). Higher utterance density in Korean children from an early stage reveals that Korean children are sensitive to the various semantic components (Cause, Manner and Path) expressed in the clause by diverse linguistic devices and that these devices are accessible and learnable essentially from the beginning of language acquisition (cf. Figure 1a) (see further discussion in 4.0).
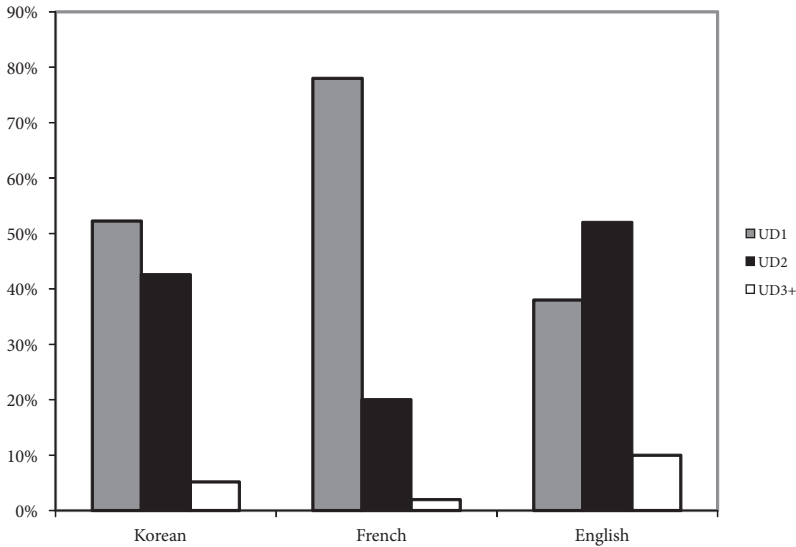
Figure 4. Utterance density in Korean children (both children and all four periods combined) and French and English children reported in Hickmann et al. (2009).

On the other hand, the level of utterance density in the Korean children was overall lower than that of the English learners: The Korean learners produced UD1 more frequently (52% Korean vs. 38% English) and UD2 less frequently (42% Korean vs. 52% English). This was expected given that English is a satellite-framed language using both verb and satellite whereas Korean is a verb-framed language using primarily the verb to encode Motion information. This interpretation is corroborated by the present data showing that Korean children used 'verb+other' constructions relatively less often than English-learning children (cf. Figures 1a & 1b above).

The difference observed between Korean and French (both verb-framed languages) is noteworthy, but it needs more careful examination. Recall that the calculation of utterance density included 'Cause of Motion,' a typical (and often inherent) component of transitive events as expressed by transitive verbs (e.g. *push*, *pull*, *bring*). It is thus possible that the higher UD of the two Korean children is simply due to speech context, i.e. more frequent expression of Motion during transitive events (a similar problem was addressed in 3.2). To examine this possibility, event types denoted by the Korean children were categorized into either 'caused' or 'spontaneous' motion, adapting Hickmann et al.'s coding system ('spontaneous' motion in this analysis includes both 'voluntary' and 'involuntary' motion).

Figures 5a and 5b show the proportions of the two types of events described by the Korean and French children respectively. At the beginning (i.e. Period 1), the Korean children talked more about caused events (thus encoding Cause of Motion

more) than the French children. But in Period 2 both groups talked about caused motion events at similar rates and in Period 3 and 4, the French children tended to talk more about caused events than the Korean children. This suggests that the higher utterance density of the Korean children is *not* due to more frequent reference to Cause of Motion in transitive events. Rather, the analysis suggests that Korean children encoded Path and Manner together in a single clause more frequently than French children. This is probably because Korean grammar allows such compact expression, more so than French grammar. For example, transitive
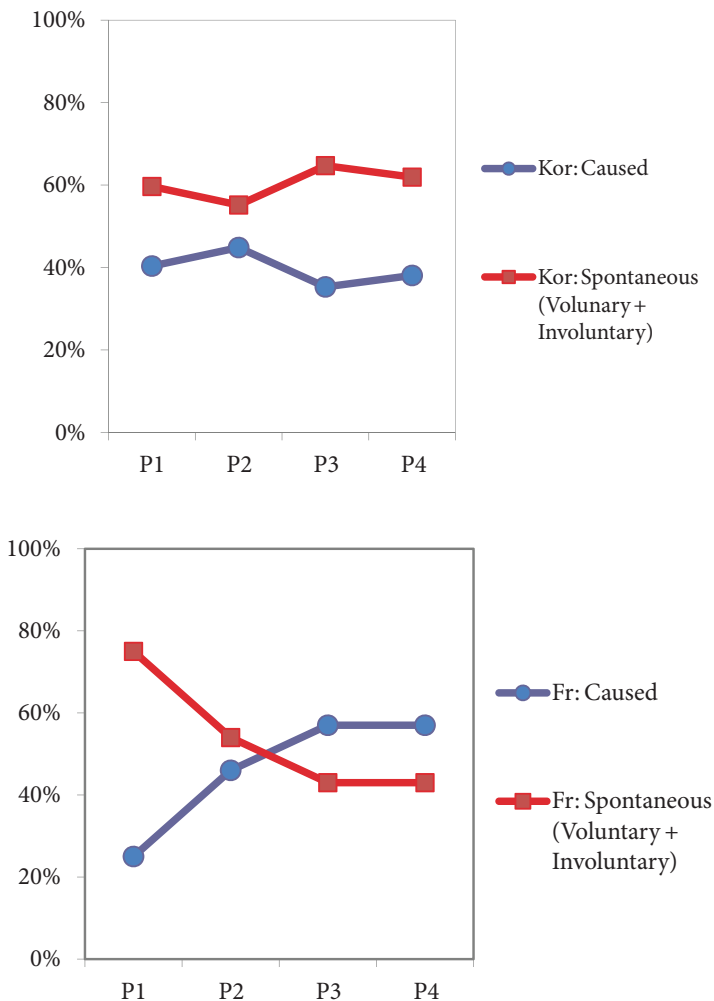

Figure 5a & 5b. Proportions of Caused vs. Spontaneous motions expressed by Korean (Figure 5a) and French (Figure 5b) children

Table 2. Examples of common verb roots and other devices used by two Korean children

Frequency	Type of device	Examples
100–400	Verb: transitive	*nehta* ('put in/on loosely')
	Verb: intransitive	*ota* ('come'), *na-ota* ('come out'), *tule-kata* ('go in'), *ttelecita* ('fall')
	Postpositional marker	*-(u)lo* ('toward'), *-ey* ('to/at/in/on')
51–99	Verb: transitive	*ppayta* ('take off'), *kkita* ('fit tightly'), *nohta* ('put on surface'), *ssotta* ('pour'), *pwuthita* ('attach 2-dimensional surface') *kkenayta* ('take out'),
	Verb: intransitive	*ppacita* ('drown'), *olla-kata* ('go up'), *nemecita* ('fall down'), *nalla-kata* ('fly-go'), *naylye-kata* ('go down'), *na-kata* ('go out')
	Adverb	*mak* ('with intensity')
	Postpositional marker	*-(ey)ta* ('to'), *-lo* ('toward')
31–50	Verb: transitive	*tencita* ('throw'), *tamta* ('put in multiple things'), *naylita* ('lower something'), *kacye-kata* ('take-go'), *kkocta* ('put a stick-shaped thing into/onto smthg'), *milta* ('push'), *chata* ('kick')
	Verb: intransitive	*ssulecita* ('fall down')
	Adverb	*ppalli* ('quickly')
	Postpositional marker	—
21–30	Verb: transitive	*ppwulita* ('sprinkle'), *kacye-ota* ('bring'), *ttwui-ta* ('run')
	Verb: intransitive	*tanita* ('go back and forth'), *tomang-kata* ('run away')
	Adverb	—
	Postpositional marker	—
11–20	Verb: transitive	*nwuluta* ('push down'), *nemkita* ('turn over'), *macchwuta* ('match/fit'), *pwusta* ('pour in'), *chiwuta* ('take away'), *seywuta* ('make x stand'), *ollita* ('raise'),*sitta* ('load x onto'), *tangkita* ('pull (a rope) toward speaker)
	Verb: intransitive	*swumta* ('hide'), *swuyenghata* ('swim'), *kalaancta* ('sag down'), *ketta* ('walk'), *tolta* ('turn'), *nalta* ('fly'), *mollyetulta* ('gather around')
	Adverb*	*phwuk* ('deeply'), ssok ('deeply inside') pwung ('brung,' reference to car movement)
	Postpositional marker	*-hanthey* ('to an animate being'), *-kkaci* ('until')

*The two children produced a combined number of 65 types of Manner adverb. For most of them, the token number was less than 10.

motion verbs in Korean incorporate both Cause and Path of Motion into a single morpheme (e.g. *nehta* 'put something in loosely', *kkita* 'put something in/on tightly,' see the list of caused motion verbs in (22) above as well as the list of transitive verbs in Table 2). This explanation is further elaborated in the next section.

4.   Summary and discussion

The present study examined the development of Motion expressions in the early stages of Korean acquisition, testing the hypothesis of an early influence of language-specific features. This hypothesis was supported by the present data at several levels. As expected, at a general level, the typological difference between verb-framed and satellite-framed languages was apparent from the earliest stage of language production. More specifically, in line with findings concerning other verb-framed languages such as French (Hickmann 2006; Hickmann & Hendriks, 2006; Hickmann et al., 2009), the Korean children in this study expressed components of Motion (i.e. Cause, Path, and Manner) in verb roots more often than in other devices from two years of age.

More interesting and striking support for the hypothesis comes from the developmental patterns that were specific to the acquisition of Korean. First, the distribution of semantic components encoded in verb roots differed from the one observed for French and English learners: Korean children encoded Path in verb roots much more frequently than French and English learners did. Second, Korean children encoded Manner elsewhere in the clause far more frequently than the French and English learners. Third, from the earliest phase Korean children produced much higher utterance density than the French children. These patterns displayed by the Korean children could be explained by children's early use of the grammatical features specific to Korean, namely SVCs, postpositional marking of Location and Path, and prevalent use of Manner adverbs.[8] The results also reveal that these devices are salient and accessible to young children from early on.

Both morphosyntactic and semantic accessibility as well as input frequency, probably contribute to the early acquisition of these devices. For example, the postpositional markers in Korean have clear morpheme boundaries between the stem and the marker, and the forms are constant (e.g. they do not fuse with person, number or case). Thus, the markers have a high degree of one-to-one correspondence between form and meaning, which facilitates acquisition (Slobin, 1973). Manner adverbs are prominent in Korean spoken discourse and are frequent in

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8. An analysis based on tokens rather than types would probably reveal much more density in Korean than in French and English. This should be examined in the future.

the input to young children. Choi et al. (2009) reported that Korean caregivers use Manner adverbs to intensify motion performed with children (e.g. *ssok* 'deeply and surely' when putting something into a container). Thus, Manner adverbs of this kind have rich semantic meaning and are often accompanied by visual support. The two children in the present study acquired these types of Manner adverbs from early on (see Table 2).

As noted earlier, SVC is a prominent structural feature in Korean and some SVCs involving deictic verbs (e.g. *tule-ota* 'entre-come,' *naylye-ota* 'descend-come') may even be considered formulaic expressions (see Footnote 5). In the two children's speech, JW and TJ started with these frequent SVCs (in Period 1), showing that input frequency played a role in early production. However, from Period 2 on, the children's SVCs included less frequent constructions of this type (e.g. *olla-thata* 'ascend-ride,' *kkule-ollita* 'pull-raise'), indicating that they were more likely to have put individual verbs together with full meaning attached to each verb.[9]

As Hickmann et al. (2009) pointed out, the influence of language-specific grammar interacts with development of general cognitive capacity. In the present study, language-specific patterns became stronger as children got older. From Period 1 to Period 4, the two children increasingly added 'other' devices (i.e. post-positional markers and adverbs) in their expression of Motion events. That is, expressing Motion with the construction 'verb+other' increased over time (cf. Figure 1a). The number of verbs in the SVC also increased as a function of age. There was also an increase in the use of Manner adverbs within the category of 'other' devices (cf. Figure 3a). Hickmann et al. (2009) also observed similar developmental changes in French- and English-learning children. In particular, they point out that use of 'other' devices developed over time in both French and English learners, particularly in expressing Manner of Motion. The present data and Hickmann et al.'s (2009), taken together, provide evidence for the conclusion that while children acquire the core structural properties of the target language from early on, they need to develop further cognitive capacities to fully master them, including the use of peripheral devices.

One major finding of the present study was the difference in UD between Korean and French children. Although both languages are verb-framed, in that they encode Path primarily on the verb and Manner optionally in another element

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9. Note that UDs in the current study are counted by semantic *types* (not tokens) of Motion (Cause, Path, Manner, Manner of Cause). Thus, possible formulaic SVCs, such as *tule-ota* 'enter-come,' that consist of two tokens of Path are counted as UD1. The current UD analysis therefore does not run the risk of exaggerating the degree of UD when some SVCs may be one unanalyzed chunk for the child. On a related matter, to assess degree of productivity of the SVCs in young children, further studies of comprehension that pull apart the different semantic elements encoded in SVCs are necessary.

in the clause, Korean children expressed Path and Manner more frequently in a single clause as compared to French children. There are two possible explanations for this difference. First, as hypothesized, Korean children make more use of the clausal structure of 'verb + other' than French children, using a variety of linguistic devices offered by Korean grammar. In addition, it is argued here that verb semantics in Korean facilitates its learners to provide more information about Motion per clause. In Korean single transitive verbs incorporate Cause plus either Path or Manner of Motion. With a few exceptions of verbs such as *omkita* 'move something,' most transitive verbs involving Motion express both Cause plus Path/Manner of Motion. In the present data, as shown in Table 2, all of the transitive motion verbs that were used by the two Korean children were single verbs that incorporated Cause with Path (e.g. *nehta* 'put in,' *nohta* 'put on,' *kkita* 'put in/on,') or Cause with Manner (e.g. *tencita* 'throw'). In contrast, in French, early-learned verbs of caused motion such as *mettre* 'put' and *prendre* 'take' are rather neutral in that they do not express specific Path/Manner information (i.e. no information about the specific spatial relationship between Figure and Ground) and thus the learner has to use another device to encode such meaning in the same clause (cf. Table 15.2 in Hickmann et al., 2009).[10] In addition, as discussed by Hickmann et al. (2009), French uses complex constructions (quasi-obligatorily) for caused motion — *faire* 'make' + infinitive — explicitly expressing Cause and Path/Manner in separate morphemes. Hickmann et al. (2009) note that French children acquire this construction quite early. It is possible that the early use of this complex verb construction may actually contribute to lower UD in French children (as compared to Korean children). That is, as they acquire such complex verb constructions, French children may use fewer 'other' devices in the same clause. Further crosslinguistic comparisons between French and Korean are necessary to test this hypothesis.

In this discussion section, individual differences between the two Korean children need to be addressed. TJ showed a slower start than JW (as shown by differences in their MLU during Period 1). TJ was also slower than JW in acquiring verb+other constructions as well as in producing 'other' devices. In fact, the patterns observed during TJ's later phase (Periods 3 and 4) were similar to those of JW's early phase (see Figure 1a and 3a). Given that TJ's MLU was lower than JW's during Period 1 (1.64 in TJ vs. 1.91 in JW), the pattern observed during TJ's early periods (Periods 1 & 2) may be the precursor of JW's Period 1. In this regard, it is interesting to observe that TJ's uses of 'verb alone' constructions in Period 1 (Figure 1a) and of other devices (Figure 3a) are somewhat similar to those of

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10. Although verbs such as *mettre* 'put' and *prendre* 'take' could be coded as including Path (i.e. deixis), they were considered in the present analysis as rather 'light' verbs in comparison to other verbs for caused motion (such as *accrocher* 'hang up, hook,' *introduire* 'insert,' etc.).

the French children. That is, in Period 1 TJ used predominantly only the verb to express Motion and he expressed Location most frequently in 'other' devices, as French children. This may suggest that children learning a verb-framed language may start out in a similar way, encoding Motion most exclusively in verb roots. To test this hypothesis, however, more children learning different verb-framed languages need to be observed from the very beginning of their language production.

It is possible that individual differences between the two Korean children may be due to differences in their input environment. JW was growing up in Seoul with input from a variety of adult speakers of Korean. TJ, in contrast, was growing up in southern California with input of Korean mostly just from his parents, and such limited environment may have slowed down his growth rate. To further confirm the individual differences reported in this study, follow-up studies should analyze the input language of the two mothers of the present study as well as present more data from children learning Korean in different environments.

The present study supports the claim that language-specific properties influence how children express Motion events from as early as two years of age (Hickmann et al. 2009). By examining the acquisition of Korean, the present paper demonstrated further that language-specific properties go beyond the general patterns resulting from typological differences (i.e. verb-framed vs. satellite-framed languages). Although Korean and French are both typologically verb-framed languages, the details of how components of Motion are encoded in their grammar are quite different. The striking differences that were observed between Korean and French children in this study reveal that children attend to such levels of language-specificity from early on. More crosslinguistic studies are needed with diverse languages to understand the extent of variation that exists among languages of the same type for the expression of Motion and to discover the process by which young children acquire them.

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Résumé

Cet article examine l'expression du mouvement et son développement chez deux enfants co-réens. La base de données est constituée d'enregistrements bi-hebdomadaires à mensuels d'in-teractions spontanées mère-enfant au domicile entre les âges de 1;11 et 4;2. Toutes les expres-sions concernant le mouvement, aussi bien volontaire que provoqué, ont été analysées selon le système de codage développé par Hickmann et al. (2009). Les analyses incluent les relations entre formes et fonctions entre les types de procédures langagières utilisés et les composantes du mouvement exprimées (par exemple, la Trajectoire, la Manière, la Cause), ainsi que la densité sémantique de l'information relative au mouvement dans l'énoncé. Les résultats ont été ensuite comparés à ceux d'enfants francophones et anglophones décrits dans Hickmann et al. (2009).

D'un point de vue typologique (Talmy, 2000), si le coréen est une langue à cadrage verbal comparable au français, elle fournit également des constructions verbales sérielles et des post-positions. Les résultats montrent que, dès deux ans, les enfants coréens utilisent ces propriétés syntaxiques et produisent des énoncés qui sont plus denses sur le plan sémantique que ceux des enfants français. De plus, les enfants coréens expriment souvent la Manière du mouvement au moyen d'adverbes, autre propriété caractéristique de la grammaire coréenne adulte. Ces résul-tats étayent la conclusion de Hickmann et al. (2009) selon laquelle les propriétés spécifiques de chaque système grammatical influencent l'expression du mouvement par l'enfant dès le plus jeune âge. De plus, la présente étude montre des variations significatives entre langues d'un même type.

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