





*The L1 Acquisition of the Imperfective Aspect Markers in Korean: a Comparison with Japanese*

- (1a) Pap-ul mek-ko iss-ta (JOO 3;3)  
 lunch-Acc eat-Prog-Dec  
 “He(or She) is eating a lunch”  
 (1b) Pap-ul mek-nun-ta  
 lunch-Acc eat-Prs-Dec  
 “He(or She) is eating a lunch”

In addition to its progressive meaning, *-ko iss-* can also describe a resultant state with transitive verbs, such as verbs of wearing, carrying, and body posture (Ahn 1995; Kim 1993; Lee 1991).

- (2) Wangkwon-ul ssu-ko iss-eyo (JONG 1;11)  
 crown-Acc wear-Resl-Dec  
 “He(or She) is wearing a crown.” or “He(or She) is putting on a crown”

In (2), *-ko iss-* can be interpreted either as an ongoing event or as a resultant state. This is because in the case of transitive verbs, only *-ko iss-* can be chosen as the imperfective aspect marker in both the describing of the progressive and the resultant state.

*-a iss-* has been defined as the resultative marker in Korean (Ahn 1995; Lee 1993; Martin 1992). However, whereas *-ko iss-* is compatible with all transitive verbs, *-a iss-* can only be used with intransitive verbs in describing a persisting state resulting from a completed action, as in (3) (Lee 1991).

- (3) Khokkili anc-a iss-e (JONG 1;11)  
 elephant sit-Resl-Dec  
 “The elephant is sitting.”

Since we compare the results of Korean L1 acquisition with those of Japanese L1 acquisition, it is necessary to describe the aspectual system of Japanese. It has an aspectual system quite similar to Korean in that the Japanese imperfective marker *-te i-* can denote both progressive and stative meanings. Generally speaking, the meaning of *-te i-* is dependent on the inherent aspectual value of the verbs to which *-te i-* is attached. Dynamic durative verbs (i.e. Vendler’s (1957) activity and accomplishment verbs) combine with *-te i-* to express progressive meanings, whereas punctual change of state verbs (Vendler’s achievement verbs) express a resulting state. The Korean imperfective marker *-a iss-*, which covers the resultative state meaning denoted by *-te i-* with achievement verbs in Japanese, is attached almost exclusively to intransitive change-of-state verbs. On the other hand, The Korean imperfective marker *-ko iss-*, which denotes progressive meaning with activity and accomplishment verbs as in Japanese, can have resultative meaning with transitive achievement verbs, as Shown in Table 2.

**Table 2** Comparison of Japanese and Korean imperfective aspect markers

	Progressive	Resultative
Japanese	<i>-te i-</i>	<i>-te i-</i>
	Activity, Accomplishment	Achievement
Korean	<i>-ko iss-</i>	<i>-ko iss-</i> <i>-a iss-</i>
	Activity, Accomplishment	transitive      intransitive
		Achievement      Achievement

### 3. Previous studies on the acquisition of aspect

Previous studies on the acquisition of tense/aspect have claimed that the development of tense/aspect morphology in language acquisition is strongly influenced by the inherent semantic aspect of the verbs to which the inflections are attached. This hypothesis, generally referred to as the Aspect Hypothesis (Andersen and Shirai 1994, 1996; Shirai 1991; Bardovi-Harlig 1999, 2000; Li and Shirai 2000; Salaberry and Shirai 2002), claims the following:

1. Learners use (perfective) past marking on achievement/accomplishment verbs, eventually extending use to activity and stative verbs.
2. In languages that encode the perfective/imperfective distinction morphologically, the imperfective past appears later than the perfective past, and the imperfect past marking begins with stative and activity (i.e., atelic) verbs, then extends to accomplishment and achievement (i.e., telic) verbs.
3. In languages that have a progressive aspect, progressive marking begins with activity verbs, and then extends to accomplishment/achievement verbs.
4. Progressive marking is rarely incorrectly overextended to stative verbs (in L1 acquisition).

Although researchers generally agree on this descriptive observation (e.g. Shirai, Slobin and Weist 1998), the explanation for this observation is not fully understood. One important hypothesis appeals to a universal predisposition (e.g., Bickerton 1981), which presupposes that children have a bias to map tense-aspect markers with particular semantic content. Namely, he argued that children use past tense marking to denote punctuality, or telicity in aspectology, and progressive/imperfective marking to mark the lack of telicity, because the Punctual-NonPunctual Distinction (PNPD) is a distinction that has a special status in his bio-program hypothesis.. Meanwhile, the Distributional Bias Hypothesis (e.g. Shirai and Andersen 1995) argues that children make particular associations based on input frequency. In other words, it suggests that associations in acquisition are based on a skewed distribution of such combinations in input, which was supported by analyzing input data of mother-child interaction in English (Shira and Andersen 1995).

Seda and Lee (2002) focused on the development of tense-aspect morphology in L1 Korean acquisition. Their data was collected from thirty Turkish children and three Korean children. They found that (i) both Korean and Turkish children use past marking predominantly with accomplishment and achievement verbs first, (ii) the same children frequently used verbs involving telicity in their past references and (iii) Turkish children start using adverbs predominantly with accomplishment verbs. Their results suggest that the L1 acquisition of past markers shows similarity cross-linguistically. However, there has been no study focused on the development of Korean imperfective aspect markers.

In Japanese, which is known to be very similar to Korean in morphology, syntactic structures, and other typological criteria, this predicted developmental pattern has not been observed (Shirai 1993, 1998, Shirai and Suzuki, in press). Shirai (1993) surveyed whether the universal acquisition pattern holds true for the Japanese progressive *-te i-* and past tense *-ta-*. He found that the Japanese children in his study followed the same universal pattern found in previous studies. However, Shirai (1998) reported different results from Shirai (1993). Shirai (1998) investigated the emergence and later development of three tense-

aspect markers in Japanese: *-ta* (past), *-te i-* (durative), and *-ru* (non-past). This data was taken from three Japanese children. He found that the emergence of tense-aspect morphology in Japanese does not necessarily follow the prediction of the Aspect Hypothesis, but is mediated by typological factors of Japanese, and that there is individual variation in the acquisition of the morphology. Shirai and Suzuki (in press) investigated the acquisition of *-te i-* again, including an analysis of the caretaker's speech data. The results indicated that there is no preponderance of activity verbs and thus progressive meaning does not occur more frequently. For all three children, the use of *-te i-* with achievements was more frequent than with activities. They suggested that frequency is more important than universal predisposition in the acquisition of tense-aspect markers, thus supporting the distribution bias hypothesis, and the usage-based model in general.

This paper is a contribution to the existing literature in two respects. First, research done so far has been predominantly on the L1 acquisition of aspect morphology of Indo-European languages. The Aspect Hypothesis states that in languages that have a progressive aspect, progressive marking begins with activity verbs, and then extends to accomplishment/ achievement verbs. This has been confirmed in research on Indo-European languages. However, Shirai and Suzuki (in press) reported that in Japanese, the progressive marking of *-te i-* emerges with achievement verbs rather than with activity verbs. This suggests that early use of *-te i-* is associated with activity verbs to mark non-punctuality, contrary to the universal prediction, and that children's use of *-te i-* is more strongly associated with achievements. In order to claim universal status for the Aspect Hypothesis, more evidence from non-Indo-European languages is needed. The current study offers vital information about how the Korean tense/aspect system is acquired, which until now has not been studied in depth, and will be the first attempt to clarify the developmental process of the imperfective aspect morphology for L1 Korean.

Second, this study will provide evidence to address the issue of whether tendencies in tense-aspect acquisition can be attributed to universal predisposition or input. Bickerton (1981, 1984) attributed such universal tendencies to his proposed bio-program, assuming that children's language acquisition is influenced by innate tendencies such as the PNPD (the Punctual-NonPunctual Distinction). Shirai and Andersen (1995) proposed an alternative account for the phenomena, which they called the Distributional Bias Hypothesis, based on the analysis of input frequency in child-directed speech. Shirai and Suzuki (in press) suggest that contrary to the bio-program hypothesis, *-te i-* was not associated with activities by Japanese children, and they argue that children follow the distributional pattern observed in the input language. In this paper, we investigate not only the children's use of the imperfective markers *-ko iss-/a iss-*, but also the mother's use of them, in order to verify the validity of the Distributional Bias Hypothesis.

The research questions addressed in this study are:

- (1) Is children's use of *-ko iss-/a iss-* associated more with activity verbs than with achievement verbs?
- (2) Is caretakers' use of *-ko iss-/a iss-* associated more with activity verbs than with achievement verbs?
- (3) Does the input in the child-directed speech influence the distributional pattern of imperfective aspect marking in the children's speech?

#### 4. Study

#### 4.1 Method and Participants

The Korean data used for the purpose of this study consists of longitudinal video-recorded speech samples from three children, as shown in Table 3 below. The data collection period was two or one and a half years. All data was taken from video-recordings during adult-child interaction at the children's homes. Videos were recorded every two weeks. The length of each session was 30min.

**Table 3** Children for the Longitudinal Data

Children	Age range	Sex and Sibling	Age of first use
JOO	1;9~3;10	F, one older sister	3;3
JONG	1;3~3;5	M, no siblings	1;11
YUN	2;3~3;9	M, no siblings	2;7

This data covered an extended period of acquisition, and includes relatively early stages of development, which was necessary to see the emergence and subsequent development of aspectual marking in both children's speech and child-directed speech. The child-directed speech (input) includes the utterances from all of the caretakers, including not only their parents but also their grandparents. In total, about 81hr of data was analyzed. The total number of utterances was 32,055: 6,326 utterances from the child YUN, 13,764 from JONG, and 11,965 from JOO. The total number of utterances in the caretakers' speech was 70,623: 14,713 utterances from input to YUN, 28,761 to JONG, and 27,149 to JOO (see Table 4).

We also analyzed Age of emergence for each child, as shown Table 3. JONG was 1 year 11 months old when the imperfective aspect first emerged in their speech, while JOO was 3 years 3 months old and YUN was 2 years 7 months old. Thus, there was a large difference in the age of emergence. In looking at these results, it appears that there is no direct correlation found between the age of emergence and use of the imperfective aspect.

#### 4.2 Data Analysis and Results

The three children produced 172 predicate tokens with the imperfective aspect markers *-ko iss-/-a iss-*, and their caretakers produced 2,092 tokens. Table 4 is a summary of the tokens we analyzed.

**Table 4** Tokens of *-ko iss-/-a iss-* Produced by Children and Caretakers

	Target Tokens		Total Tokens		Frequency (target/total)	
	child	caretaker	child	Caretaker	child	caretaker
JOO (1;9~3;10)	40	853	11,965	27,149	0.003	0.031
JONG (1;3~3;5)	64	582	13,764	28,761	0.005	0.020
YUN (2;3~3;9)	68	657	6,326	14,713	0.011	0.045

The frequency (the mean number of imperfective aspect markers per utterance) was

0.003~0.011 for the children and 0.020~0.045 for the caretakers. These figures suggest that both the children and the adults overall used imperfective aspect markers quite infrequently across all contexts.

4.2.1 RQ1: Children’s Use of *-ko iss-/-a iss-*

Table 5 shows the usage of the three imperfective markers by the children and caretakers. We can see the longitudinal development of *-ko iss-/-a iss-* over time. We also separated the caretaker usage into “pre-emergence” and “post-emergence” in the table. Three children use not only the progressive *-ko iss-*, but also the resultative *-ko iss-/-a iss-* from early stages of development (Table 5.) According to the overall distribution of the use of imperfective aspect markers over time, all three children used the resultative *-ko iss-/-a iss-* more frequently than the progressive *-ko iss-* (use of resultative *-ko iss-/-a iss-*: 71% for JONG, 64% for JOO and 55% for YUN). JONG and JOO further used the resultative *-a iss-* more frequently than the progressive *-ko iss-*. The results indicate that there was no common pattern in three children’s acquisition. This can be seen in the fact that Korean children didn’t seem to associate imperfective aspect marking more with activity verbs.

Table 5 Use of the three imperfective markers by the children and caretakers (token count)

JOO	Pre-emergence		Post-emergence										
	Child	Care-takers	Child										Care-takers
	1;9-3;2	(%)	3;3	3;4	3;5	3;6	3;7	3;8	3;9	3;10	sum(%)	(%)	
PRG	N/A	401	2	1	0	3	3	3	1	0	13	133	
-ko iss-		(62)								(36)	(63)		
RSL	N/A	90	0	0	0	1	2	2	0	0	5	15	
-ko iss-		(14)								(14)	(7)		
RSL	N/A	152	1	0	2	9	1	1	0	4	18	62	
-a iss-		(24)								(50)	(30)		
Sum	0	643	3	1	2	13	6	6	1	4	36	210	
		(100)								(100)	(100)		

JONG	Pre-emergence		Post-emergence								
	Child	Caretakers	Child								
	1;3-1;10	(%)	1;11	2;0	2;1	2;2	2;4	2;7	2;8	2;9	
PRG- <i>ko iss-</i>	N/A	51 (64)	2	1	2	0	2	0	0	0	
RSL- <i>ko iss-</i>	N/A	9 (11)	2	1	1	3	0	0	0	1	
RSL- <i>a iss-</i>	N/A	20 (25)	1	3	2	1	2	3	1	2	
Sum	0	80 (100)	5	5	5	4	4	3	1	3	

Post-emergence										
Child										Caretakers
2;10	2;11	3;0	3;1	3;2	3;3	3;4	3;5	sum(%)		(%)
2	3	3	0	0	2	0	1	18 (29)		203 (40)
1	4	0	0	0	1	1	1	16 (26)		66 (13)
4	0	0	1	1	1	1	5	28 (45)		233 (46)
7	7	3	1	1	4	2	7	62(100)		502 (100)

YUN	Pre-emergence		Post-emergence							
	Child	Care-	Child							
	2;3-2;6	takers(%)	2;7	2;8	2;9	2;10	2;11	3;0	3;1	3;2
PRG- <i>ko iss-</i>	N/A	35 (42)	1	3	3	1	1	2	1	6
RSL- <i>ko iss-</i>	N/A	15 (18)	2	0	0	2	2	0	2	0
RSL- <i>a iss-</i>	N/A	33 (40)	0	1	0	0	2	2	0	0
Sum	0	83 (100)	3	4	3	3	5	4	3	6

Post-emergence							Care-takers (%)
Child					sum(%)		
3;5	3;6	3;7	3;8	3;9			
0	1	7	3	0	29 (45)	289 (50)	
0	0	0	0	0	8 (12)	79 (14)	
2	9	2	9	1	28 (43)	206 (36)	
2	10	9	12	1	65 (100)	574 (100)	

Note. In the Tables, PRG = Progressive, RSL = Resultative. The token frequency is in parentheses. In the data of JONG 2;3 2;5 2;6 was not observed.

#### 4.2.2 RQ2: Caretakers' Use of *-ko iss-/-a iss-*

Caretaker speech also showed the same tendencies as that of the children. Table 6 shows the usage of the three imperfective markers by the caretakers. YUN and JONG's caretakers use progressive *-ko iss-* and resultative *-ko iss-/-a iss-* equally (use of progressive *-ko iss-*: 49% for YUN and 44% for JONG). However, JOO's caretaker uses the progressive *-ko iss-* more frequently than the resultative *-ko iss-/-a iss-* (use of the progressive *-ko iss-*: 63%). The results indicate that there was no common pattern in three caretakers' speech and that they did not use more progressive marking with activity verbs than resultative marking with achievement verbs.

**Table 6** Use of the three imperfective markers by the caretakers (token count)

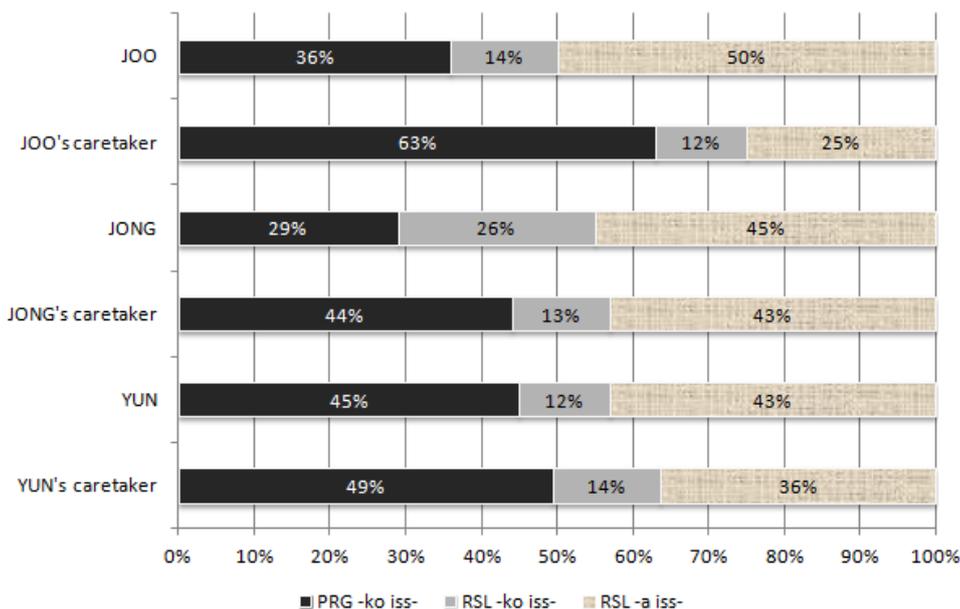
	JOO's caretaker		JONG's caretaker		YUN's caretaker	
	token	percentage	token	percentage	token	percentage
PRG- <i>ko iss-</i>	534	63%	254	44%	324	49%
RSL- <i>ko iss-</i>	105	12%	75	13%	94	14%
RSL- <i>a iss-</i>	214	25%	253	43%	239	36%
Sum	853	100%	582	100%	657	100%

#### 4.2.3 RQ3: Relationship Between Caretakers and Their Children

Figure 1 shows the children's and caretakers' use of *-ko iss-/-a iss-*. YUN's usage closely reflects the frequency of his caretaker, although YUN uses the resultative *-a iss-* 7% more frequently than his caretaker. JONG uses the resultative *-ko iss-* twice more than his caretaker, and the progressive *-ko iss-* less (44% vs. 29% for the progressive *-ko iss-*). Thus,

JONG’s usage of imperfective aspect markers leaned more towards resultative markers than his caretaker. JOO, however, exhibited a very different usage pattern than that of her caretakers. JOO’s caretaker used the progressive *-ko iss-* more than any other form, but JOO used the resultative *-a iss-* most frequently (63% vs. 36% for the progressive *-ko iss-*).

**Figure 1** Children’s and Caretakers’ Usage pattern of the imperfective markers



Looking at the relationship between the caretakers and their children, two patterns can be observed in our data. One pattern, as in the case of YUN and JONG, shows children resemble their caretakers in their overall use of the three imperfective markers. The other pattern, as in the case of JOO, shows children don’t reflect the frequency of their caretakers. Thus, it is difficult to say that the input in the child-directed speech influence the distributional pattern of imperfective aspect marking in the children’s speech. Although the data regarding research question 3 seems to indicate that the answer might be no, two of the children did indeed exhibit patterns close to their caretakers, and further investigation might prove fruitful.

## 5. Discussion

The results obtained in this study answer the research questions stated earlier, as follows:

- (1) There was no association found between children’s use of *-ko iss-/a iss-* and activity or achievement verbs.
- (2) There was no association found between caretakers’ use of *-ko iss-/a iss-* and activity or achievement verbs.
- (3) The input from the child-directed speech given by the caretaker seems to influence the distributional pattern of imperfective aspect marking in the children’s speech.

The results found in our experimentation show that there was no universal pattern in the three children's acquisition. Two of them associated imperfective aspect marking with achievement verbs early on, but one child associated imperfective aspect marking with activity verbs at the early stage. Thus, our results don't support the Aspect Hypothesis. We also suggest that the acquisition of the Korean imperfective aspect cannot be explained by the universal predisposition. We did, however, find that caretaker speech showed the same tendencies as that of their children. The analysis of the overall input indicates that if input is skewed in one direction or the other, children will show the same usage preference. Thus, frequency in the input appears to be more important in the acquisition of tense-aspect markers than any universal predisposition. Children were not observed to associate progressive marking with activity verbs at the early stages of development as the Aspect Hypothesis would predict. Rather, it would seem that there is a large amount of individual variation in the acquisition of morphology, as suggested by Budwig (1996) in his study of pronominal case acquisition in English. His research showed that of the six children he tested, half of them underwent a different acquisition order than the other half.

We suggest, for a number of reasons, that the main cause of the differences in acquisition seen in our experimentation is the input the children receive. We make this claim for a number of reasons. First, Shirai and Suzuki (in press) indicate that in L1 Japanese acquisition, there is a tendency for the resultative state to be acquired first. However, we achieved different results in Korean L1 acquisition in our study. They mention that because of the frequency in the input, children use *-te i-* with achievements more than with activities. According to their results, caretaker speech showed a skewed distribution, exhibiting more frequent use of achievements. This differs from the results of our study in Korean as well as those reported in Shirai (1993) and (1998). If we look at the total results of Shirai and Suzuki (in press), Shirai (1993), and Shirai (1998), as shown in Table 7, we can see that three of nine children showed some preference for linking activity verbs to the progressive, while five of them showed some preference for linking achievement verbs to the resultative, and one didn't show any preference at all. In looking at the overall results of these studies, individual variation can be observed in Japanese as it was in Korean in our experiments. In addition, if we look at the combined results of these studies in Japanese mentioned above, it shows that the children's aspectual preferences coincide with that of their caretakers. This leads us to believe that the emergence of imperfective aspect markers in Korean and Japanese does not follow the predictions of the Aspect Hypothesis, and that there is individual variation in the acquisition of morphology, the distributional pattern of which is highly influenced by the input received.

**Table 7** Previous studies on the L1 acquisition of imperfective aspect marker *-te i-* in Japanese

		Children's speech	Input
Rispoli (1983)	Hiroki(2;0)	No preference	NA
Horiguchi (1981)	H(1;10)	Progressive	NA
Shirai(1993)	Sumihare(1;11)	Progressive-Activity	Progressive-Activity?
Shirai (1998a)	Taachan(2;2)	Resultative-Achievement	NA
	Aki (2;1)	Progressive-Activity	Progressive-Activity?
Shirai & Suzuki (in press)	Taro (2;11)	Resultative-Achievement	Resultative-Achievement
	Jun (2;2)	slight preference for Achievement	slight preference for Achievement
	Ryo (2;1)	Resultative-Achievement	Resultative-Achievement
	Tai (1;7)	Resultative-Achievement	Resultative-Achievement

## 6. Conclusion

This study investigated the acquisition of the imperfective aspect markers *-ko iss-/-a iss-* in Korean to address the issue of whether or not Korean children would actually follow the acquisition pattern predicted by the Aspect Hypothesis: progressive marking with activity verbs being acquired earlier than resultative marking with achievement verbs. The results clearly indicate that contrary to the Aspect Hypothesis, there was no common pattern in our test subject's acquisition, and that individual variation plays a larger role in the early acquisition of tense-aspect markers than universal predisposition.

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## APPENDIX 1

Verbs of the first 10 samples of imperfective aspect marker usage by each child

Child	Word	Meaning
JOO	먹다(1) mek-ta	'eat'
	모이다(1) moi-ta	'gather'
	자다(1) ca-ta	'sleep'
	하다(1) ha-ta	'do'
	되다(1) toy-ta	'become'

	쓰다(1) ssu-ta 가다(1) ka-ta 앉다(2) anc-ta 감히다(1) kathi-ta	'write' 'go' 'sit' 'be confined'
JONG	낚시하다(1) naksiha-ta 타다(2) tha-ta 앉다(1) anc-ta 쓰다(1) ssu-ta 되다(2) toy-ta 붙다(1) pwuth-ta 하다(1) ha-ta 밀다(1) mil-ta	'fish' 'ride' 'sit' 'wear' 'become' 'stick' 'do' 'push'
YUN	타다(1) tha-ta 모르다(1) molu-ta 하다(1) ha-ta 가다(3) ka-ta 울다(1) wul-ta 쓰다(1) ssu-ta 사다(1) sa-ta 놀다(1) nol-ta	'ride' 'do not know' 'do' 'go' 'cry' 'write' 'buy' 'play'