On the acquisition of tense in Korean L1: the case of the perfect marker ‘-ess’

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GOALS of the talk

- Provide the evidence that the Korean suffix ‘-ess’ is a perfect.

- Argue that the distribution of the temporal readings of ‘-ess’ — existential past vs result state reading — is correlated with the inherent temporal structure of the predicate to which it is suffixed.

- Present a pilot protocol designed to investigate the acquisition of ‘-ess’ on the basis of this correlation by young children learning Korean as their first language. The results validate our hypothesis.
• The Korean suffix ‘-ess’ (=‘-ass’, ‘-ss’) gives rise to either a past or a present reading.

(1) a. Mina-ka ecey/*cikum aph-**ass**-ta.
Mina-Nom yesterday/now be.sick-ess-Dec
“Mina was sick yesterday.”,
*“Mina is sick now.” → **Real past reading**

b. Mina-nun *olaecene/cikum imsinhay-**ss**-ta.
Mina-Top longtime.ago/now be.pregnant-ess-Dec
“Mina is pregnant now.”,
*“Mina was pregnant longtime ago.” → **Present reading**
How should we analyze the Korean suffix ‘-ess’?

- ‘-ess’ has been analyzed as a past tense (C. Lee 1985), a perfective marker (Nam 1996), ambiguous between past and perfect (Song 1999), or an anterior (H. Lee 1991).

- For Chung 2005, ‘-ess’ is a perfect: *sentences with ‘-ess’ assert the existence of a prior event and thereby presuppose the necessity that some consequent state of the event holds at the reference time.*

- We adopt Chung’s proposal that ‘-ess’ is a perfect, but we will implement this idea differently.
Like the English present perfect, ‘-ess’ yields either an existential past or a result state reading. (but not an universal reading.)


(3) Paul-un ecey/cikum yulican-ul kkye-ss-ta. Paul-Top yesterday/now cup-Acc break-Pfct-Dec "Paul has broken a cup yesterday/now." (The cup is broken now.): result state reading
What determines the distribution of the existential past vs result state reading of the perfect marker ‘-ess’?

The verb ‘dance’ in (2) → Activity (Atelic): existential past reading
The verb ‘break a cup’ in (3) → Achievement (Telic): result state reading

(2) Mina-ka cinancue Paul-kwa chwum-ul chwu-ess-ta.  
Mina-Nom last.week Paul-with dance-Acc danser-Pfct-Dec  
“Mina danced with Paul last week.”

(3) Paul-un ecey/cikum yulican-ul kkye-ss-ta.  
Paul-Top yesterday/now cup-Acc break-Pfct-Dec  
“Paul has broken a cup yesterday/now.”
Preliminary Hypothesis

The distribution of the temporal readings of ‘-ess’ is conditioned by the telicity of predicates with which it occurs.

Distribution of readings for ‘-ess’

<table>
<thead>
<tr>
<th></th>
<th>Simple sentences (REF-T= UT-T)</th>
<th>Embedded clauses (REF-T= matrixSIT-T)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Atelic predicates</strong></td>
<td>Existential past reading</td>
<td>Past-shifted reading</td>
</tr>
<tr>
<td><strong>Telic predicates</strong></td>
<td>Result state reading</td>
<td>Simultaneous/DA reading</td>
</tr>
</tbody>
</table>
English present perfect vs ‘-ess’

i. Existential reading
Available with all type of predicates in English
(4) a. I have lived in Vancouver (before).
   b. Paul has broken his computer (before).

Available only with atelic predicates in Korean
   Juno-Nom before/now be.sick-Pfct-Dec
   “Juno was sick before/*now.”

   b. Paul-în cikum/*cene yulican-ul kkye-**ss-ta.
   Paul-Top now/before cup.Acc break-Pfct-Dec
   “Paul has broken a cup now/*before.” (The cup is broken now.)
ii. **Continuative reading**

*Available only with atelic predicates in English*

(6) a. Max has slept for two hours. *(he is still sleeping)*  
   b. *John has arrived for two hours.*

*Not available with any predicates in Korean*  

(7) *Mina has been sick at least since 2008, but she is fine now.*

   Mina-Top 2008-yeaer-since be.sick--Pfct-experience-be-but now-Top be.fine-Prst-Dec  
   “Mina has been sick at least since 2008, but she is fine now.”
iii. Result state reading

Available only with telic predicates in English

(9) a. John has jumped into the ditch.  (John is in the ditch now.)  Telic
    b. Max has slept.     (he is no longer sleeping at UT)  Atelic

Available only with telic predicates in Korean

(10) a. Paul-In yulican-ul kkye-ss-ta.  Telic
     Paul-Top cup-Acc break-Pfct-Dec
     “Paul has broken a cup yesterday/now.”  (The cup is broken now.)

    b. Mina-ka aph-ass-ta.  Atelic
     Mina-Nom be.sick-Pfct-Dec
     “Mina was sick.”  (Mina is no longer being sick at UT)
2 classes of states in Korean

Paradox

Unlike stative predicates in other languages, states in Korean divides into two sub-classes: (Chung (1999, 2005)

*Pure states* (*celm* ‘be young’) vs *Inchoative states* (*nulk* ‘be old’)

• States in English do not occur with the progressive marker, but can occur with the inchoative marker.

(11)    a. * Paul is *being sick*.          [-PROG]
        b. Paul *became sick*.            [+INCHAO]
Like states in English, pure states in Korean can occur with the inchoative, but cannot occur with the progressive marker.

    Mina-Nom now-Top be.young-go-Prog-Dec  
    * “Mina is being young now.”  
    \footnotesize{[-PROG]}  

b. Mina-ka ice-nun celm-\textit{e ci}-n-ta.  
    Mina-Nom now-Top be.young-Incho-Prst-Dec  
    “Mina is getting young now.”  
    \footnotesize{[+INCHO]}
Pure vs Inchoative states in Korean

• Unlike states in English and pure states in Korean, some Korean states verbs like *nulk* ‘be old(age)’, *imsinha* ‘be pregnant’, *talm* ‘be alike (resemble)’, *cala* ‘grow’ can occur with the progressive.

• Unlike pure states in Korean, these verbs are not compatible with the inchoative form.

(13) Mina-ka ice-nun nulk-e ka-*ko iss*-ta.
    Mina-Nom now-Top be.old-go-Prog-Dec
    “Mina is being old.” [+PROG]

(14) * Mina-ka ice-nun nulk-*e ci*-n-ta.
    Mina-Nom now-Top be.old-Incho-Prst-Dec
    * “Mina is getting old now.” [-INCHO]
Pure vs Inchoative states in Korean

When they are combined with the perfect marker ‘-ess’

- Pure states

(15) Mina-nun caknyune/*cikum celm-ess-ta.
Mina-Top last.year/now be.young-Pfct-Dec
“Mina was young last year.”
* “Mina is young now.”

*Existential past* reading
(predicted since they are atelic.)
Pure vs Inchoative states in Korean

When they are combined with the perfect marker ‘-ess’

- Inchoative states

(16) Mina-nun cikum/*olaecene imsinhay-ss-ta.
    Mina-Top now/longtime.ago be.old-Pfct-Dec
    “Mina is pregnant now.”
    * “Mina was pregnant longtime ago.”

Result state reading

Conclusion: Inchoative states combined with ‘-ess’ yield the temporal reading that telic predicates yield.
Inchoative states vs telic predicates

Are inchoative states telic predicates?

• Like telic predicates, inchoative states are compatible with « in X time » adverbial.

(17) Paul-un il-nyun-mane (kapcaki) nulk-*ess*-ta.
    Paul-Top one-year-in suddenly be.old-Pfct-Dec
    “Paul has aged suddenly in one year.”

• Unlike telic predicates, inchoative states combined with ‘-ess’ are also compatible with « since X time » adverbial.

(18) Mary-nun chulsan-ilay mani nulk-*ess*-ta.
    Mary-Top childbirth-since so be.old-Pfct-Dec
    “Mary has been so old since her baby’s birth.”
Inchoative states vs telic predicates

Are Inchoative states telic?

They are not telic predicates:

→ They are compatible with « since X time » adverbial because they denote the inception of a change of state.

→ They are compatible with « in X time » adverbial because they describe a time of transition: (the inception of) a change of state.

(become) old/pregnant
Telic predicates combined with ‘-ess’ co-occur with either a past or a present adverbial.

Past adverbial specifies the (past) time at which the event culminated and which brings about the result state. Present adverbial specifies the time of the result state.

    Paul –Top last.week/now die-Pfct-Dec
    “Paul has died last week/now.”
Inchoative states vs telic predicates

→ Inchoative states can occur only with a present adverbial specifying the time of the result state and do not occur with a past adverbial.

→ The culmination of the eventuality which brings about a change of state is not the part of their meaning.

(20) Paul-un cikum/*caknyene nulk-ess-ta.
Paul-Top now/last.year be.old-Pfct-Dec
“Paul is old now/∗last year.”
Inchoative states vs telic predicates

Kamp & Reyle (1993) (for English type)

Preparatory phase       Culmination       Result state
I                      II                      III

Event                      Result state

✓ The result state of the event described by telic predicates begins at the moment where the event bringing it about culminates.

E. Lee (2005) (for Korean type)

Preparatory phase       Transition       Result state
I                      II                      III

→ “The fact that events have the transition (change) in their eventuality description appears to be a cognitive universal, but Korean and English differ as to whether to take the transition to be the culmination of part I only or the inception of part III.”
Inchoative states vs telic predicates

Back to the distribution of the temporal readings of ‘-ess’:

Telic predicates (accomplishments, achievements) + Inchoative states

\[ \Rightarrow \text{a result state reading} \]

Atelic predicates (activities, pure states)

\[ \Rightarrow \text{an existential past reading} \]

✓ Temporal structure in common

\[ \text{telic predicates and inchoative states} \]

\[ \Rightarrow \text{CHANGE OF STATE} \]
Aspectual classification in Korean

Adopt Klein (1994, 1995)’s aspectual classification:

♠ 1 state lexical contents: there is at least one other possible time at which the sentence is not true.

Ex) “John has run.” : there is some pre-time and post-time at which John is not running.

♠ 2 state lexical contents: there is a change of state, such that these lexical contents are composed of two states, a source state (SS) and a target state (TS). For each state, there is at least one other possible time at which the state is not true.

Assume that inchoative states are 2 state lexical contents:
Ex) « be old »

SS: not being old
TS: being old
Proposed aspectual classification in Korean:

<table>
<thead>
<tr>
<th>1 state lexical contents</th>
<th>Korean predicates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities, Pure states</td>
<td></td>
</tr>
<tr>
<td>Accomplishments,</td>
<td></td>
</tr>
<tr>
<td>Achievements,</td>
<td></td>
</tr>
<tr>
<td>Inchoative states</td>
<td></td>
</tr>
</tbody>
</table>
Demirdache & Uribe-Etxebarria uniformly derive the readings of the perfect from the assumption that accomplishments are and achievements may be broken down into process and telos eventualities.

The VP is assigned the complex event structure where each subevent projects a temporal argument defining its running-time.
Deriving of the temporal readings of ‘-ess’

For our case,

\[
\begin{align*}
\text{STATE-T1} &= \text{running time of } SS, \\
\text{STATE-T2} &= \text{running time of } TS
\end{align*}
\]
Deriving of the temporal readings of ‘-ess’

Adopt D & U-E’s analysis of present perfect.

i. Klein’s 3 temporal coordinates: UT-T, AST-T (= REF-T), SIT-T.

ii. *present* orders the UT-T **within** the AST-T

   *perfect* orders the AST-T **after** the SIT-T.

(21) Mary has danced.

\[\text{The perfect is the spatiotemporal predicate } \textit{AFTER}.\]
Deriving the temporal readings of the English present perfect

i. When the perfect focuses *any time after* SIT-T1, that is the AST-T, an existential reading is generated.

\[
\begin{array}{c}
\text{EV-T1} \quad \text{EV-T2} \quad \text{AST-T} \\
\text{result state} \quad \text{UT-T}
\end{array}
\]

ii. When the perfect focuses the AST-T *immediately after* the final bound of SIT-T1, a result state reading is generated.

\[
\begin{array}{c}
\text{EV-T1} \quad \text{EV-T2} \quad \text{UT-T} \\
\text{AST-T= result state}
\end{array}
\]
Deriving of the temporal readings of ‘-ess’

perfect ‘-ess’ orders always the AST-T *immediately after* STATE-T1.

- (existential) Past reading (1 state predicates)
  When the perfect marker ‘-ess’ orders the AST-T *immediately after* the interval defining the STATE-T of 1 state predicates, an existential past reading is generated.

(22) Paul be+**ess** sick.

![Diagram](image-url)
perfect ‘-ess’ orders always the AST-T immediately after STATE-T1.

- Result state reading (2 state predicates)

When ‘-ess’ orders the AST-T immediately after the interval defining STATE-T1(=SS), that focuses STATE-T2(=TS/result state), a result state reading is generated.

(23) Mary be+ess pregnant.

\[
\text{not being pregnant (STATE-T1=SS)} \quad \text{being pregnant (STATE-T2=TS/result state)}
\]
Deriving of the temporal readings of ‘-ess’

In simple sentences: REF-T=UT-T within the AST-T after STATE-T1

In embedded clauses:

REF-T= past matrixSIT-T within the AST-T after STATE-T1

Prediction:

i.  with 1 state predicates

\[ \text{matrixSIT-T within the AST-T immediately after STATE-T1.} \]

\[ (\text{STATE-T1 precedes matrixSIT-T}) \]

(24) Paul said that Mary dance+ess with him.

1.  AST-T immediately after STATE-T1
2.  matrixSIT-T (=past saying time) within the AST-T
ii. with 2 state predicates

→ matrix $\text{SIT-T}$ within the AST-T \textit{immediately after} $\text{STATE-T1(SS)}$.

The AST-T focuses $\text{STATE-T2(TS/result state)}$. 
Deriving of the temporal readings of ‘-ess’

(25) Sumi said that Sumi be\textit{+ess} pregnant.

1. AST-T (immediately) \textit{after} STATE-T1, AST-T focuses STATE-T2.

2. \textit{matrix}SIT-T(=saying time) within the AST-T

3. If the UT-T falls within the AST-T→ DA reading where Sumi is still pregnant at the UT-T.

If the UT-T falls after the AST-T → Simultaneous reading where Sumi was pregnant at the saying time.
Summary on the interpretations of ‘-ess’

✓ available interpretations of the perfect marker ‘-ess’,

<table>
<thead>
<tr>
<th>Type of Predicates</th>
<th>Simple Sentences (REF-T= UT-T)</th>
<th>Embedded Clauses (REF-T= matrixSIT-T)</th>
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<tbody>
<tr>
<td>1 State Predicates</td>
<td>Existential past reading</td>
<td>Past-shifted reading</td>
</tr>
<tr>
<td>2 State Predicates</td>
<td>Result state reading</td>
<td>Simultaneous/DA reading</td>
</tr>
</tbody>
</table>
Experimental hypothesis

→ Korean children should assign different temporal readings to the perfect marker ‘-ess’ depending on the type of predicate with which it occurs.

i. In simple sentences
   (existential) past reading → with 1 state predicates
   result state reading → with 2 state predicates

ii. In embedded clauses
   past-shifted reading → with 1 state predicates
   simultaneous/DA reading → with 2 state predicates
Pilot protocol in Korean

✓ Subjects

  11 Korean children (ages ranging from 6;3 to 7;10) and 10 adults controls. This experiment was run in Seoul.

✓ Procedure

Truth-Value judgment task

  The stories were acted out with either pictures or Playmobils. They were filmed on video and then, showed to the children.

  After each story, a puppet named Simba utters the test sentence with the perfect marker ‘-ess’. The children were asked to judge whether or not Simba’s utterance is acceptable to describe what happened in the story.
Pilot protocol in Korean

A. Protocol to test temporal interpretations of ‘-ess’ in simple sentences (REF-T= UT-T)

• Example of Simba’s utterance

<table>
<thead>
<tr>
<th>Activity –1 state (a)</th>
<th>« Smurf brush-ess his teeth. »</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pure state –1 state (b)</td>
<td>« Snoopy be-ess hungry. »</td>
</tr>
<tr>
<td>Inchoative state –2 state (c)</td>
<td>« Flowers grow-ess well. »</td>
</tr>
<tr>
<td>Achievement -2 state (d)</td>
<td>« Sami catch-ess a cold. »</td>
</tr>
</tbody>
</table>
Condition 1: context making the *past* reading true

→ appropriate context for using the perfect marker ‘-ess’ with 1 state predicates, but inappropriate context for using it with 2 state predicates.

<table>
<thead>
<tr>
<th>Test sentences</th>
<th>Condition 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) : « Smurf brush-ess his teeth. »</td>
<td>√</td>
</tr>
<tr>
<td>(b) : « Snoopy be-ess hungry. »</td>
<td>√</td>
</tr>
<tr>
<td>(c) : « Flowers grow-ess well. »</td>
<td>*</td>
</tr>
<tr>
<td>(d) : « Sami catch-ess a cold. »</td>
<td>*</td>
</tr>
</tbody>
</table>

→ We expect the children to accept test sentences (a, b), but reject test sentences (c, d).
Pilot protocol in Korean

Condition 1 with 1 state predicates (activities) (a)

Smurf is brushing his teeth. He finished brushing his teeth. And now, he is playing his trumpet.

Experimentater : Simba, What happened in the story?
Simba : « Smurf brush-ess his teeth. »

Experimentater (to the child) : Did Simba describe well this story?
Expected response : YES

Activities (1 state predicates) allow an (existential) past reading
Pilot protocol in Korean

Condition 1 with 2 state predicates (achievements) (d)

Sami caught a cold because she had gone outside under the snow.   Mom gave her medicine. And now, she got over her cold.

Experimentater: Simba, What happenend in the story?

Simba: « Sami catch-ess a cold. »

Experimentater (to the child): Did Simba describe well this story?

Expected response: NO

Achievements (2 state predicates) allow a result state reading.
Condition 2: context making a *result state* reading true

→ appropriate context for using the perfect marker ‘-ess’ with 2 *state* predicates, but inappropriate context with 1 state predicates.

<table>
<thead>
<tr>
<th>Test sentences</th>
<th>Condition 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) : « Smurf brush-ess his teeth. »</td>
<td>*</td>
</tr>
<tr>
<td>(b) : « Snoopy be-ess hungry. »</td>
<td>*</td>
</tr>
<tr>
<td>(c) : « Flowers grow-ess well. »</td>
<td>√</td>
</tr>
<tr>
<td>(d) : « Sami catch-ess a cold. »</td>
<td>√</td>
</tr>
</tbody>
</table>

→ We expect the children to accept test sentences (c, d) in this context, but reject the sentences (a, b).
Pilot protocol in Korean

Condition 2 with 1 state predicates (pures states) (b)

Snoopy is hungry. He is searching in the basket for something to eat.

But he found nothing inside. He goes to sleep because he’s so hungry.

Experimentater: Simba, What happend in the story?
Simba: « Snoopy be-ess hungry. »

Experimentater (to the child): Did Simba describe well this story?
Expected response: NO

Pure states (1 state predicates) allow an (existential) past reading
Sami planted seeds in the flowerpot. They began to sprout. She gave them plenty of water and the flowers are full grown.

Experimentater : Simba, What happened in the story?

Simba : « Flowers grow-ess well. »

Experimentater (to the child) : Did Simba describe well this story?

Expected response : YES

Inchoative states (2 states predicates) allow a result state reading.
Results for simple sentences (% of acceptability)

<table>
<thead>
<tr>
<th>Age</th>
<th>Type of predicate</th>
<th>Condition 1 (past reading)</th>
<th>Condition 2 (result state reading)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-year-old</td>
<td>Activities (a)</td>
<td>100% (Y)</td>
<td>0% (N)</td>
</tr>
<tr>
<td>(n=5)</td>
<td>Pure states (b)</td>
<td>100% (Y)</td>
<td>0% (N)</td>
</tr>
<tr>
<td></td>
<td>Inchoative states (c)</td>
<td>40% (N)</td>
<td>100% (Y)</td>
</tr>
<tr>
<td></td>
<td>Achievement (d)</td>
<td>0% (N)</td>
<td>100% (Y)</td>
</tr>
<tr>
<td>7-year-old</td>
<td>Activities (a)</td>
<td>100% (Y)</td>
<td>0% (N)</td>
</tr>
<tr>
<td>(n=6)</td>
<td>Pure states (b)</td>
<td>100% (Y)</td>
<td>0% (N)</td>
</tr>
<tr>
<td></td>
<td>Inchoative states (c)</td>
<td>0% (N)</td>
<td>100% (Y)</td>
</tr>
<tr>
<td></td>
<td>Achievement (d)</td>
<td>0% (N)</td>
<td>100% (Y)</td>
</tr>
</tbody>
</table>

(): expected answer, Y: Yes, N: No
Results for simple sentences

- The children differentiated very well the (existential) past reading from the result state reading for the perfect marker ‘-ess’ in accordance with the aspectual class of predicates.

- As expected, under the (existential) past reading, they accepted 1 state predicates (activities, pure states), but rejected 2 state predicates (achievements, inchoative states). On the other hand, under the result state reading, they accepted only 2 state predicates.

*Unexpected result*: some 6-year-old children assigned a past reading to inchoative states (40%). This could imply that they are treating inchoative states as pure states, but we need more children or items to confirm this hypothesis.
B. Protocol to test temporal interpretations of ‘-ess’ in embedded clauses. (REF-T = matrixSIT-T)

- Example of Simba’s utterance

<table>
<thead>
<tr>
<th>Activities -1 state (a’)</th>
<th>« Juno said that Dad water-<em>ess</em> flowers. »</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pure states -1 state (b’)</td>
<td>« Juno said that keys be-<em>ess</em> in the basket. »</td>
</tr>
<tr>
<td>Inchoative states -2 state (c’)</td>
<td>« Mina said that the flower grow-<em>ess</em> well. »</td>
</tr>
<tr>
<td>Achievements – 2 state (d’)</td>
<td>« Juno said that he catch-<em>ess</em> a cold. »</td>
</tr>
</tbody>
</table>
Condition 3: context making the past-shifted reading true

→ appropriate context for using of the perfect marker ‘-ess’ with 1 state predicates, but inappropriate context with 2 state predicates.

<table>
<thead>
<tr>
<th>Test sentences</th>
<th>Condition 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a’) : « Juno said that Dad water-ess flowers. »</td>
<td>√</td>
</tr>
<tr>
<td>(b’) : « Juno said that keys be-ess in the basket. »</td>
<td>√</td>
</tr>
<tr>
<td>(c’) : « Mina said that the flower grow-ess well. »</td>
<td>*</td>
</tr>
<tr>
<td>(d’) : « Juno said that he catch-ess a cold. »</td>
<td>*</td>
</tr>
</tbody>
</table>

→ We expect the children to accept test sentences (a’, b’), but reject sentences (c’, d’) in this context.
Pilot protocol in Korean

♠ Condition 4 & 5: contexts making the simultaneous/DA reading true
→ appropriate contexts for using the perfect marker ‘-ess’ with 2 state predicates, but inappropriate context with 1 state predicates.

<table>
<thead>
<tr>
<th>Test sentences</th>
<th>Condition 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a’): « Juno said that Dad water-ess flowers. »</td>
<td>*</td>
</tr>
<tr>
<td>(b’): « Juno said that keys be-ess in the basket. »</td>
<td>*</td>
</tr>
<tr>
<td>(c’): « Mina said that the flower grow-ess well. »</td>
<td>✓</td>
</tr>
<tr>
<td>(d’): « Juno said that he catch-ess a cold. »</td>
<td>✓</td>
</tr>
</tbody>
</table>

→ We expect the children to accept test sentences (c’, d’) in these contexts, but reject sentences (a’, b’).
### Pilot protocol in Korean

- **Results for embedded clauses (% of acceptability)**

<table>
<thead>
<tr>
<th>Age</th>
<th>Type of predicate</th>
<th>Condition 3 (past-shifted reading)</th>
<th>Condition 4 (simultaneous reading)</th>
<th>Condition 5 (DA reading)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-year-old (n=5)</td>
<td>Activities (a’’)</td>
<td>100% (Y)</td>
<td>0% (N)</td>
<td>0% (N)</td>
</tr>
<tr>
<td></td>
<td>Pure states (b’’)</td>
<td>100% (Y)</td>
<td>0% (N)</td>
<td>0% (N)</td>
</tr>
<tr>
<td></td>
<td>Inchoative states (c’’)</td>
<td>0% (N)</td>
<td>100% (Y)</td>
<td>100% (Y)</td>
</tr>
<tr>
<td></td>
<td>Achievements (d’’)</td>
<td>60% (N)</td>
<td>100% (Y)</td>
<td>100% (Y)</td>
</tr>
<tr>
<td>7-year-old (n=6)</td>
<td>Activities (a’’)</td>
<td>100% (Y)</td>
<td>8.3% (N)</td>
<td>25% (N)</td>
</tr>
<tr>
<td></td>
<td>Pure states (b’’)</td>
<td>100% (Y)</td>
<td>33.3% (N)</td>
<td>25% (N)</td>
</tr>
<tr>
<td></td>
<td>Inchoative states (c’’)</td>
<td>0% (N)</td>
<td>83.3% (Y)</td>
<td>100% (Y)</td>
</tr>
<tr>
<td></td>
<td>Achievements (d’’)</td>
<td>50% (N)</td>
<td>83.3% (Y)</td>
<td>100% (Y)</td>
</tr>
</tbody>
</table>

( ): expected answer, Y: Yes, N: No
Correct predictions for embedded clauses

→ In simultaneous/DA readings, most children correctly accepted 2 state predicates, while rejected 1 state predicates.

→ In past-shifted reading, they correctly accepted 1 state predicates (Activities, Pure states), well rejected inchoative states.

**Surprising result**: many 6-year-old children (60%) and 7-year-old children (50%) incorrectly accepted the past-shifted reading with achievements. Why?
An interesting pattern

(26) Comprehension pattern (with 2 state predicates)

<table>
<thead>
<tr>
<th>Type of reading</th>
<th>Comprehension</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>expected</td>
<td>Volunteered</td>
</tr>
<tr>
<td>Past-shifted reading</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Simultaneous reading</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>DA reading</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

→ ‘-ess’ can express in embedded context anteriority relative to the past matrix event time.

(27) a. Paul said that Mary has caught a cold (before).

→ ‘-ess’ can express temporal overlap relative to the past matrix event time only if the described state still holds at the UT-T.

b. Paul said that Mary has caught a cold (now).

it’s behaving just like English present perfect
(28) Production pattern (with 2 state predicates)

<table>
<thead>
<tr>
<th>Type of reading</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>volunteered</td>
</tr>
<tr>
<td>Past-shifted reading</td>
<td>Past/plus perfect</td>
</tr>
<tr>
<td></td>
<td>(‘essess’)</td>
</tr>
<tr>
<td>Simultaneous reading</td>
<td>Past/plus perfect</td>
</tr>
<tr>
<td></td>
<td>(‘essess’)</td>
</tr>
<tr>
<td>DA reading</td>
<td>Present (‘nun’)</td>
</tr>
</tbody>
</table>

SoT GRAMMAR
This production pattern, using a past (‘-essess’) for the past-shifted reading or the simultaneous reading and a present (‘-nun’) for the DA reading, is a feature of SoT languages.

- **SoT language:**
  - past → past-shifted/simultaneous reading, present → DA reading

- **Non-SoT language** (in Japanese):
  - past → past-shifted reading, present → simultaneous reading

(29) a. Paul said that Mary was sick. (past-shifted/simultaneous reading)
   b. Paul said that Mary is sick. (DA reading)

→ ‘Eunjae’ could be considered as a child who has a SoT grammar. But Korean is a non-SoT language. (Ogihara (1996))
Is the appearance of the SoT pattern in the non-SoT language surprising?

Similar patterns observed in the literature

✓ SoT pattern in the acquisition of non-SoT language:
→ Evidence from Japanese (Matsuo & Hollebrandse (1999))
  Japanese children accept a simultaneous reading of past in embedded clauses.

✓ Non-SoT pattern in the acquisition of SoT language:
→ Evidence from French (Demirdache & Lungu (2008))
  French children accept a simultaneous reading of present in embedded clauses.
Children go through a stage where they have both values of the SoT parameter switched on, as expected under *Multiple Grammars* hypothesis.

Acquisition of the language involves a competition between grammars.
CONCLUSION

✓ We argued that the Korean suffix ‘-ess’ is a perfect marker yielding either an existential past or a result state reading.
✓ Our hypothesis:

<table>
<thead>
<tr>
<th>simple sentences (REF-T= UT-T)</th>
<th>embedded clauses (REF-T= matrixSIT-T)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 state predicates</td>
<td>Existential past reading</td>
</tr>
<tr>
<td>2 state predicates</td>
<td>Result state reading</td>
</tr>
</tbody>
</table>

✓ We designed a pilot protocol in Korean to test the acquisition of ‘-ess’ on the basis of this hypothesis. Our preliminary results validate our hypothesis.
✓ Some surprising volunteered production result (‘-essess’, ‘-nun’) also suggests that although the Korean is not a SoT language, some children also have a SoT grammar.
REFERENCES


REFERENCES

• Lee C.M. (1985) “Temporal expressions in Korean”. In selected papers from the 1st international Pragmatics conference.
REFERENCES

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