Acquisition of V-V and N-N compounds in Japanese: From the viewpoint of the Compounding Parameter
Reiko Okabe and Miwa Isobe
Nihon University and Tokyo University of the Arts

Introduction
A series of detailed cross-linguistic and acquisition studies by Snyder (1995 et seq.) has proposed the Compounding Parameter (TCP) in (1) which determines the availability of creative, endocentric nominal compounds (NNs) and complex predicate constructions (CPCs). These studies have also reported that some [+TCP] languages such as English and Mandarin permit V-DP-Particle construction (V-DP-Prt) (e.g., pull the lid off) while others such as Japanese and Korean do not. The present study focuses on the fact that only Japanese-type [+TCP] languages permit Verb-Verb compounds (VVs) as in (2) and proposes that the availability of this construction depends on the [+TCP] setting, based on acquisitional data.

V-V Compounds and TCP
Both Japanese and Korean are known to have one type of VV; lexical VVs (LVVs) (e.g., Kageyama 1993). The present study assumes that Japanese LVVs are constructed in syntax (e.g., Saito 2014), and $V_1$ directly merges with $V_2$ to form a verbal complex as shown in (3). Another characteristic which Japanese and Korean share is the availability of NNs and CPCs like resultatives. Snyder (2007) argues that the construction is controlled by TCP, with Generalized Modification (GM) in (1b) playing a role in interpretation of NNs and CPCs as in (4).

We can find an interesting semantic similarity between LVVs and other constructions known to stem from TCP, such as NNs: the two verbs of a Japanese LVV, such as nage-ireru ‘throw-put.in,’ are sisters, with $V_2$ serving as the head of the compound. We can then assume that GM applies to the LVV, which correctly yields the meaning of ‘a subtype of putting (something) in event-kind denoted by throwing.’ This leads us to believe that the availability of LVVs also has to do with [+TCP].

Given the findings described above, there seem to be at least two types of [+TCP] languages: those which allow V-DP-Prt and those which permit LVVs. It is then expected that there is a correlation between the acquisition of NNs and the acquisition of LVVs in Japanese-speaking children.

Corpus Analysis
We manually analyzed all the files of three corpora in CHILDES (Table 1) to locate the first of repeated uses (FRU) of LVVs and novel NNs, following Snyder (2007). Table 2, which summarizes each child’s FRU for each construction, shows that all the children seemingly started to produce NNs earlier than LVVs. After counting the numbers of all LVVs and NNs uttered by each child, we conducted the binomial test to obtain the probability of the child’s producing NNs earlier than LVVs simply by chance (Table 3). The result is not significant at Bonferroni-corrected p-value of .05, which suggests that all three children acquired LVVs and creative NNs at around the same time.

Discussion & Conclusion
The present study points out that only Japanese-type [+TCP] languages allow LVVs and tested the acquisitional prediction derived from this cross-linguistic fact. The corpus data suggest that Japanese children acquire LVVs and NNs almost concurrently. The results are compatible with our claim that both LVVs and NNs stem from TCP.
Examples

(1) a. The Compounding Parameter (TCP)

The language (does / does not) permit Generalized Modification.

b. Generalized Modification (GM)

If \( \alpha \) and \( \beta \) are syntactic sisters under the node \( \gamma \), where \( \alpha \) is the head of \( \gamma \), and if \( \alpha \) denotes a kind, then interpret \( \gamma \) semantically as a subtype of \( \alpha \)'s kind that stands in a pragmatically suitable relation to the denotation of \( \beta \).

(Snyder 2012: 285)

(2) a. Japanese:

\[ \text{nage-ireru} \ [\text{throw-put.in}] \text{‘throw in,’} \quad \text{osi-dasu} \ [\text{push-move.out}] \text{‘push out,’} \]

\[ \text{hiki-nuku} \ [\text{pull-extract}] \text{‘pull out,’} \quad \text{ori-mageru} \ [\text{fold-bend}] \text{‘fold up’} \]

b. Korean:

\[ \text{caille-cwukita} \ [\text{stab-kill}] \text{‘stab to death,’} \quad \text{pata-tulita} \ [\text{receive-put.in}] \text{‘accept,’} \]

\[ \text{kala-thata} \ [\text{change-get.on}] \text{‘transfer,’} \quad \text{cikhye-pota} \ [\text{protect-watch}] \text{‘watch over’} \]

(Tsukamoto 2013: 302)

(3) \[ \text{[VP booru-o [V \text{2 [V \text{1 nage}] [V \text{2 ire}]]]} \quad \text{ball-ACC throw put.in} \quad \text{‘throw the ball in’} \]

(4) a. NN: "frog chair" = chair of a type related to frogs

b. Complex predicate construction (e.g., resultative):

"wipe clean" = a subtype of the “wiping” kind of event, that stands in a pragmatically suitable relation to the “clean” kind of state

(Snyder 2012: 285-286, 289)

Table 1: Corpora analyzed

<table>
<thead>
<tr>
<th>Child</th>
<th>Collected by</th>
<th>Age</th>
<th># of utterances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tai</td>
<td>Miyata (2004c)</td>
<td>1;5-3;1</td>
<td>33,336</td>
</tr>
<tr>
<td>Sumihare</td>
<td>Noji et al. (2004a)</td>
<td>0;0-6;11</td>
<td>39,641</td>
</tr>
<tr>
<td>Nanami</td>
<td>Nisisawa &amp; Miyata (2009)</td>
<td>1;1-5;0</td>
<td>27,416</td>
</tr>
</tbody>
</table>

Table 2: Children’s FRU of LVVs and NNs

<table>
<thead>
<tr>
<th>Child</th>
<th>LVVs</th>
<th>Creative NNs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tai</td>
<td>moti-dasu ‘hold-bring.out’ (2;7.21)</td>
<td>hanbaagu-keeki ‘hamburg.steak.cake’ (2;4.30)</td>
</tr>
<tr>
<td>Sumihare</td>
<td>hai-deru ‘crawl.come.out’ (2;10.01)</td>
<td>omaturi-geta ‘festival-Japanese clog’ (2;7.15)</td>
</tr>
<tr>
<td>Nanami</td>
<td>maki-tuku ‘wind-stick.to’ (3;11.12)</td>
<td>ninjin-iro ‘carrot-color’ (2;8.07)</td>
</tr>
</tbody>
</table>

Table 3: Statistic analysis (binomial test based on absolute frequencies)

<table>
<thead>
<tr>
<th>Child</th>
<th>p-value</th>
<th>p = [(x-y)/x]z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tai</td>
<td>.171 &gt; .017</td>
<td>x: the total # of utterances after FRU of LVV</td>
</tr>
<tr>
<td>Sumihare</td>
<td>.597 &gt; .017</td>
<td>y: the total # of utterances with LVV</td>
</tr>
<tr>
<td>Nanami</td>
<td>.038 &gt; .017</td>
<td>z: the total # of utterances btw FRU of NN and that of LVV</td>
</tr>
</tbody>
</table>

(The significance level of .05 was corrected using a Bonferroni correction (.05/3 = .017).)

Selected References