Stowell (1981, 1982) proposes that there is a parameter that determines the availability of both preposition stranding (P-stranding) and the V-particle-NP construction. While the V-particle-NP construction requires only the positive setting of the relevant parameter, P-stranding requires several additional properties to be identified. Stowell’s analysis predicts the following: English-learning children should never acquire P-stranding significantly earlier than the V-particle-NP construction. The investigation of ten longitudinal corpora for English from CHILDES has borne out this prediction. Given the recent proposal by Snyder (1995, 2001) that the verb-particle construction follows from the Compounding Parameter, which determines the availability of various complex-predicate constructions, the findings suggest that P-stranding is also dependent on this parameter, and thus support its global nature.*

Keywords: preposition stranding, verb-particle construction, parameter, acquisition

1. Introduction

Within the Principles-and-Parameters approach to Universal Grammar including the recent Minimalist Program (Chomsky 1981, 1986, 1995), language acquisition is interpreted as the process of setting the values of parameters, which are conceived of as abstract points of syntactic variation with multiple consequences for the surface grammar. Under this view, we can in principle evaluate the parameters proposed

* This paper is a revised version of Sugisaki and Snyder (2002). We are grateful to Klaus Abels, Miwa Isobe, Howard Lasnik, Joan Maling, Christer Platzack, and the audience at the 26th Boston University Conference on Language Development for valuable comments and suggestions. The usual disclaimers apply. This research was in part supported by the U.S. National Institutes of Health, Grant DCD-00183.
in the syntactic literature by investigating how the child acquires the grammatical characteristics that are allegedly dependent on the same point of variation. Hyams (1986) was the first study that illustrated this possibility: In that study, Hyams showed that an early non-adult-like setting of the null-subject parameter provides an account for why child English exhibits properties like the lack of overt subjects and overt expletives, and also for why these properties fade away at around the same time. Even though Hyams’s original analysis has had to undergo many revisions, several recent acquisition studies have revealed that child language acquisition in fact constitutes an important testing ground for the proposed parameters, as envisioned by Hyams (see Snyder (1995), Snyder and Stromswold (1997), Sugisaki and Isobe (2000), Sugisaki, Snyder, and Yaffee (2000), Snyder (2001), Sugisaki and Snyder (2001), Isobe (2002), among others).

In this study, we present converging evidence from comparative syntax and the acquisition of English for Stowell’s (1981, 1982) view that preposition stranding and the verb-particle construction are dependent on the same parameter. The findings made in this study, we will argue, indicate that the positive setting of the Compounding Parameter proposed in Snyder (1995, 2001) constitutes a necessary condition for the availability of preposition stranding, and thus confirm its global nature. More broadly, this study demonstrates, along the lines of Hyams (1986) and Snyder (1995), that the time course of child language acquisition is a potentially rich source of evidence concerning the parameters of variation permitted by human language.

2. Conditions on Reanalysis

It has been observed at least since van Riemsdijk (1978) that the availability of preposition (or postposition) stranding (P-stranding), as illustrated in (1), is quite limited cross-linguistically.¹

(1) What did they talk about t?

In light of the existence of such cross-linguistic variation, many

¹ In this study we focus on P-stranding under A’-movement, and will not discuss P-stranding under A-movement as in (i), which is known as prepositional passives or pseudopassives.

(i) This problem was already accounted for t.
attempts have been made to determine what parameters are crucially relevant for the availability of this marked property (Herslund (1984), Hornstein and Weinberg (1981), Kayne (1981), Law (1998), Mailing (1977), van Riemsdijk (1978), Salles (1997), Stowell (1981, 1982), among others). In a pre-Minimalist framework, Stowell (1981, 1982) proposed that the possibility of P-stranding is tightly connected to the possibility of the verb + (adpositional) particle construction. In this section, we summarize Stowell's analysis, which provides the theoretical basis of our cross-linguistic and acquisitional investigations.

According to Stowell (1981, 1982), the availability of P-stranding in a given language is governed by the parameter in (2).

(2) There {is, is not} a word-formation rule in the lexicon which creates a complex verb of the following form: [v V-particle].

Stowell assumes, following Emonds (1985: Ch. 6.2), that particles are 'intransitive prepositions.' He also adopts the assumption from Hornstein and Weinberg (1981) that there is a UG constraint which dictates that Reanalysis must apply in the syntax in order for P-stranding to be possible. Reanalysis is an operation that creates a complex verb from a verb and a preposition, as in (3).

(3) V[PP P NP] → [v V-P] NP

Stowell proposes that this Reanalysis operation must satisfy the UG constraint stated in (4).

(4) Structure-Preserving Condition on Reanalysis (Stowell (1982: 255)):

A string of words, S, may be reanalyzed so as to form a complex word, W, only if:

(i) S can be properly analyzed as a string of adjacent syntactic constituents of the form [a₁, ..., aₙ], where αᵢ has a specific matrix of the categorial features Mᵢ, and a specified bar-level Lᵢ, and

(ii) there is a string of constituents S', consisting of a set of adjacent terms [β₁, ..., βₙ], where βᵢ has the categorial feature matrix Mᵢ, and the bar-level Lᵢ, and

² See Herslund (1984) for a similar proposal.
³ See Baltin and Postal (1996) for a detailed discussion of problems with the Reanalysis operation.
(iii) S' is defined as a word by the rules of the word-formation component.

The intuition behind (4), Stowell explains, is that “[t]he complex words which they [i.e. Reanalysis rules] ‘create’ [in the syntax] must be weakly equivalent in structure to words that might be produced independently by the word-formation rules of the language in question” (Stowell (1982: 255)).

Under Stowell's system, the verb-particle combination provides a template for the complex verb created by the Reanalysis operation. If a language has a verb-particle construction with the order verb+particle as in (5a), then that combination provides a template to reanalyze the verb and the prepositional head of the following PP into a single complex verb. If a language permits a verb-particle construction with the order particle+verb, as in (5b), then that combination provides a template to reanalyze the verb and the postpositional head of the preceding PP into a single complex verb.

(5) verb-particle Reanalysis
   a. [v V+particle]: V [PP P NP] → [v V+P] NP
   b. [v particle+V]: [PP NP P] V → NP [v P+V]

The condition in (4) states that Reanalysis (and consequently P-stranding) is possible only in those languages that take the positive value of (2) and thus have the relevant template, namely, the verb-particle construction with the appropriate word order.

Since English permits the verb-particle construction with the order verb+particle, as shown in (6), this language is allowed to reanalyze the verb and the prepositional head of the following PP. Hence, 'preposition stranding' is possible.

(6) John should [v pick up] the book.

(7) What did they [v talk about] t?

In Dutch, the verb-particle construction has the order particle+verb, and thus Dutch allows the reanalysis of the verb and the head of the preceding postpositional phrase. Hence, ‘postposition stranding’ is possible in Dutch, even though its possibility is very limited, compared to English.

(8) omdat Jan mijn broer op belde
because John my brother up called

(van Riemsdijk (1978: 91))

she tries there in to climb
‘She is trying to climb into it.’

b. Waar probeert zij in te klimmen?
where tries she in to climb
‘Where is she trying to climb into?’

(Stowell (1982: 249))

We have seen above that under Stowell’s (1981, 1982) system, the existence of a verb-particle construction with the appropriate word order constitutes a necessary condition for the application of Reanalysis, and consequently for the possibility of P-stranding. Yet, it does not constitute a sufficient condition, since “Reanalysis rules are subject to various other conditions” (Stowell (1982: 266)). Even though the nature of the other conditions is not fully understood at this point (see Herslund (1984) for a related discussion), Stowell’s analysis still makes interesting predictions for cross-linguistic variation and the acquisition of P-stranding. In the following sections we will examine the accuracy of these predictions.

3. Predictions for Cross-linguistic Variation in P-stranding

Assuming that Stowell’s (1981, 1982) analysis, reviewed in the previous section, is on the right track, we obtain the following predictions for cross-linguistic variation in P-stranding: First, ‘preposition stranding’ is possible only in those languages that have the V-particle-NP construction, and second, ‘postposition stranding’ is possible only in those languages that have the NP-particle-V construction. The results of our cross-linguistic survey, summarized in Table 1, bear out these predictions. Representative examples are presented in Appendix I.

Table 1: Results of Cross-linguistic Survey

<table>
<thead>
<tr>
<th>verb-particles</th>
<th>P-stranding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germanic:</td>
<td></td>
</tr>
<tr>
<td>North Germanic</td>
<td></td>
</tr>
<tr>
<td>Icelandic:</td>
<td>V-particle-NP</td>
</tr>
<tr>
<td>Norwegian:</td>
<td>V-particle-NP</td>
</tr>
<tr>
<td>Swedish:</td>
<td>V-particle-NP</td>
</tr>
<tr>
<td>Danish:⁴</td>
<td>V-particle-NP</td>
</tr>
</tbody>
</table>

⁴ Herslund (1984: 40) and others mention that V-particle-NP order is not possible
**West Germanic:**

<table>
<thead>
<tr>
<th>Language</th>
<th>Structure</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>V-particle-NP</td>
<td>preposition stranding</td>
</tr>
<tr>
<td>German:5</td>
<td>NP-particle-V</td>
<td>NO</td>
</tr>
<tr>
<td>Dutch:</td>
<td>NP-particle-V</td>
<td>postposition stranding with R-pronouns6</td>
</tr>
<tr>
<td>Frisian:7</td>
<td>NP-particle-V</td>
<td>postposition stranding with R-pronouns</td>
</tr>
</tbody>
</table>

**Niger-Congo:**

<table>
<thead>
<tr>
<th>Language</th>
<th>Structure</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bete Gbadi:8</td>
<td>NP-particle-V</td>
<td>postposition stranding</td>
</tr>
</tbody>
</table>

**Afro-Asiatic:**

<table>
<thead>
<tr>
<th>Language</th>
<th>Structure</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hebrew:</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

**Altaic:**

<table>
<thead>
<tr>
<th>Language</th>
<th>Structure</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turkish:</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Basque:</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Greek:</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

**Japanese-Korean:**

<table>
<thead>
<tr>
<th>Language</th>
<th>Structure</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japanese:</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

**Romance:**

<table>
<thead>
<tr>
<th>Language</th>
<th>Structure</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>French:9</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Italian:</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Spanish:10</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

**Slavic:11**

<table>
<thead>
<tr>
<th>Language</th>
<th>Structure</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgarian:</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

In Danish. Yet, Thrá́insson (2000: 166) presents the following example:

(i) Jeg skrev op nummeret/*det.
   I wrote up number-the it
   ‘I wrote the number/it down.’

5 van Riemsdijk (1978: 215) reports that a limited range of 'postposition stranding' is possible in northern German dialects.

6 R-pronouns in Dutch are: er, daar (both = there), hier (= here), ergens (= somewhere), nergens (= nowhere), waar (= where) and overal (= everywhere).

7 See Hoekstra (1995) for discussion of P-stranding of full DPs in Frisian.

8 See Koopman (1984) for a detailed discussion.

9 A variety of French spoken in Prince Edward Island, Canada, reportedly allows preposition stranding (King and Roberge (1990)). Its exact nature merits further investigation.

10 See Campos (1991) for discussion of apparent cases of preposition stranding in Spanish.

11 van Riemsdijk (1978: 133) reports that some limited possibilities for P-stranding exist in Macedonian, but we do not have any detailed information at this point.
4. Predictions for the Acquisition of English

Under Stowell’s (1981, 1982) system, the availability of V-particle-NP constructions, stemming from the positive setting of the parameter in (2), constitutes one of the necessary conditions for the possibility of ‘preposition stranding.’ In other words, the language-particular knowledge required for V-particle-NP constructions is a proper subset of the knowledge required for preposition stranding. This predicts that a child learning English should never have a grammar that permits preposition stranding, but disallows the V-particle-NP construction:

(10) Children learning English should never acquire preposition stranding significantly earlier than the V-particle-NP construction.

In order to test this prediction, we selected ten longitudinal corpora for English from the CHILDES database (MacWhinney and Snow (1985, 1990)), to obtain a total sample of more than 126,000 lines of child speech. The corpora we analyzed are listed in Table 2.

<table>
<thead>
<tr>
<th>Child</th>
<th>Collected by</th>
<th>Ages</th>
<th># Files Analyzed</th>
<th># Child Utterances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abe</td>
<td>Kuczaj (1976)</td>
<td>2; 4.24-2; 9.19</td>
<td>40</td>
<td>4,214</td>
</tr>
<tr>
<td>Adam</td>
<td>Brown (1973)</td>
<td>2; 3.4-2; 7.0</td>
<td>10</td>
<td>9,253</td>
</tr>
<tr>
<td>Allison</td>
<td>Bloom (1973)</td>
<td>1; 4.21-2; 10.0</td>
<td>6</td>
<td>2,192</td>
</tr>
<tr>
<td>April</td>
<td>Higginson (1985)</td>
<td>1; 10.0-2; 11.0</td>
<td>6</td>
<td>2,321</td>
</tr>
<tr>
<td>Eve</td>
<td>Brown (1973)</td>
<td>1; 6.0-2; 3.0</td>
<td>20</td>
<td>12,473</td>
</tr>
<tr>
<td>Naomi</td>
<td>Sachs (1983)</td>
<td>1; 2.29-4; 9.3</td>
<td>93</td>
<td>16,634</td>
</tr>
<tr>
<td>Nina</td>
<td>Suppes (1973)</td>
<td>1; 11.16-2; 11.12</td>
<td>36</td>
<td>22,957</td>
</tr>
<tr>
<td>Peter</td>
<td>Bloom (1970)</td>
<td>1; 9.8-2; 8.12</td>
<td>18</td>
<td>26,058</td>
</tr>
<tr>
<td>Sarah</td>
<td>Brown (1973)</td>
<td>2; 3.5-3; 8.27</td>
<td>75</td>
<td>20,787</td>
</tr>
<tr>
<td>Shem</td>
<td>Clark (1978)</td>
<td>2; 2.16-2; 8.3</td>
<td>20</td>
<td>9,178</td>
</tr>
</tbody>
</table>

For each child we began by locating the first clear uses of (a) a V-particle-NP construction, (b) a direct-object *wh*-question, (c) a *wh*-question or a null-operator construction with preposition stranding. The CLAN program Combo, together with a complete file of English
prepositions and of English particles, was used to identify potentially relevant child utterances, which were then searched by hand and checked against the original transcripts to exclude imitations, repetitions, and formulaic routines.

The results are summarized in Table 3. Among the ten children, eight acquired V-particle-NP constructions, direct-object wh-questions, and preposition stranding by the end of their corpora. Following Stromswold (1996) and Snyder and Stromswold (1997), the age at which a child produced his or her first clear example of a construction (followed soon after by additional uses) was considered to be the age of acquisition for this construction. Mean age of acquisition for the V-particle-NP construction was 2;3. Mean age of acquisition for preposition stranding was 2;7. Thus, the mean age of acquisition for the V-particle-NP construction was earlier than preposition stranding by about 4 months.

Table 3: Ages of Acquisition

<table>
<thead>
<tr>
<th>Child</th>
<th>V-particle-NP</th>
<th>direct-object wh-question</th>
<th>preposition stranding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abe</td>
<td>2; 6.6</td>
<td>2; 5.0</td>
<td>2; 7.7</td>
</tr>
<tr>
<td>Adam</td>
<td>2; 3.18</td>
<td>2; 5.0</td>
<td>2; 5.0</td>
</tr>
<tr>
<td>Allison</td>
<td>2; 10.0</td>
<td>2; 10.0</td>
<td></td>
</tr>
<tr>
<td>April</td>
<td>--</td>
<td>2; 1.0</td>
<td>2; 9.0</td>
</tr>
<tr>
<td>Eve</td>
<td>1; 10.0</td>
<td>1; 8.0</td>
<td>2; 2.0</td>
</tr>
<tr>
<td>Naomi</td>
<td>2; 0.5</td>
<td>1; 11.30</td>
<td>2; 8.30</td>
</tr>
<tr>
<td>Nina</td>
<td>1; 11.16</td>
<td>2; 2.12</td>
<td>2; 9.13</td>
</tr>
<tr>
<td>Peter</td>
<td>1; 11.17</td>
<td>2; 1.18</td>
<td>2; 5.3</td>
</tr>
<tr>
<td>Sarah</td>
<td>3; 1.24</td>
<td>2; 10.11</td>
<td>3; 3.7</td>
</tr>
<tr>
<td>Shem</td>
<td>2; 2.16</td>
<td>2; 2.16</td>
<td>2; 6.6</td>
</tr>
<tr>
<td>Average</td>
<td>2; 3</td>
<td>2; 3</td>
<td>2; 7</td>
</tr>
</tbody>
</table>

To evaluate the statistical significance of an observed age-difference between the acquisition of the V-particle-NP construction and the acquisition of preposition stranding, we began at the child's first direct-object wh-question. (We reasoned that it was appropriate to look for a wh-question with preposition stranding only when the child was already using wh-movement in simple, direct-object questions.) We then counted the number of clear uses of the earlier construction (either V-particle-NP or preposition stranding) before the first clear use of the later construction. Next we calculated the relative frequency of
the two constructions in the child's own speech, starting with the transcript after the first use of the later construction, and continuing for five transcripts or through the end of the corpus (whichever came first). Finally we used a modified sign test to obtain the probability of sampling the observed number of tokens of the earlier construction simply by chance, before the first use of the later construction, under the null hypothesis that both became available concurrently and had the same relative probability of use as in later transcripts (cf. Stromswold (1996), Snyder and Stromswold (1997)).

Results of the statistical analysis are summarized in Table 4. Two of the eight children acquired the V-particle-NP construction and preposition stranding at approximately the same age. One of them (Adam) acquired the V-particle-NP construction and preposition stranding at the same time: His first clear use of the V-particle-NP construction was earlier than that of direct-object wh-questions and of preposition stranding, but the transcript containing his first clear use of a direct-object wh-question also contained his first clear use of preposition stranding. As for the other child (Abe), there was no significant difference, \( p > .10 \) by modified sign test. The remaining six children acquired the V-particle-NP construction significantly earlier than preposition stranding, by modified sign test (Eve, Naomi, Nina, Peter, Sarah, Shem). Crucially, no child in our study acquired preposition stranding significantly earlier than the V-particle-NP construction. Thus, the results have borne out the prediction in (10) from Stowell's (1981, 1982) analysis. Therefore, the acquisitional evidence lends support to Stowell's generalization that natural-language grammars permitting preposition stranding are restricted to those permitting the V-particle-NP construction.

12 More accurately, due to the relatively small size of each file, more than five transcripts were examined for some children: 19 files for Abe, 8 files for Nina, and 23 files for Sarah.

13 April constitutes a potential counterexample to this conclusion, given that she showed six uses of P-stranding but did not show any clear use of the V-particle-NP construction. Yet, in order for these six uses to reach significance (\( p < .05 \)), the relative frequency of P-stranding has to be lower than .61. Since she plausibly had a relative frequency comparable to Abe's, Eve's, Nina's or Sarah's (all of whom had a relative frequency greater than .61), we cannot reliably take April as a clear counterexample: We genuinely need later frequency information from the same child, in order to interpret the data.
Table 4: Results of the Statistical Analysis

<table>
<thead>
<tr>
<th>Child</th>
<th># of earlier construction</th>
<th>Relative Frequency</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>V-particle-NP</td>
<td>P-stranding</td>
<td></td>
</tr>
<tr>
<td>Abe</td>
<td>1 (V-particle)</td>
<td>.143</td>
<td>.857</td>
<td>p &gt; .10</td>
</tr>
<tr>
<td>Adam</td>
<td>0</td>
<td>.....</td>
<td>.....</td>
<td>.....</td>
</tr>
<tr>
<td>Allison</td>
<td>4 (V-particle)</td>
<td>.....</td>
<td>.....</td>
<td>.....</td>
</tr>
<tr>
<td>April</td>
<td>6 (P-stranding)</td>
<td>.....</td>
<td>.....</td>
<td>.....</td>
</tr>
<tr>
<td>Eve</td>
<td>9 (V-particle)</td>
<td>.333</td>
<td>.667</td>
<td>p &lt; .01</td>
</tr>
<tr>
<td>Naomi</td>
<td>7 (V-particle)</td>
<td>.467</td>
<td>.533</td>
<td>p &lt; .01</td>
</tr>
<tr>
<td>Nina</td>
<td>9 (V-particle)</td>
<td>.375</td>
<td>.625</td>
<td>p &lt; .01</td>
</tr>
<tr>
<td>Peter</td>
<td>15 (V-particle)</td>
<td>.727</td>
<td>.273</td>
<td>p &lt; .01</td>
</tr>
<tr>
<td>Sarah</td>
<td>4 (V-particle)</td>
<td>.364</td>
<td>.636</td>
<td>p &lt; .05</td>
</tr>
<tr>
<td>Shem</td>
<td>26 (V-particle)</td>
<td>.429</td>
<td>.571</td>
<td>p &lt; .01</td>
</tr>
</tbody>
</table>

5. P-stranding and the Compounding Parameter

As we saw in Section 2, Stowell (1981, 1982) proposed that parametric variation in the availability of the V-particle-NP/NP-particle-V construction (and consequently of P-stranding) lies in the word-formation rule given in (2). Yet, recent studies by Snyder (1995, 2001) provide converging evidence from child language acquisition and comparative syntax for the view that the verb-particle constructions, including the V-particle-NP construction, are dependent on a global parameter called the Compounding Parameter.

(11) The Compounding Parameter (Snyder (2001: 328)):

The grammar \{disallows*, allows\} formation of endocentric compounds during the syntactic variation. [*unmarked value]

According to Snyder, this parameter directly determines whether productive root (e.g. noun-noun) compounding is possible in a given language: Thus, while languages like English take the positive value of this parameter and hence permit novel compounds, languages like French take its negative value and consequently do not permit novel compounds.

(12) a. English: worm can
b. French: *verre-boîte, *boîte-verre
   worm-can can-worm
   OK boîte aux verres
can for-the worms

(Snyder (1995: 34))
In addition, the positive setting of this parameter constitutes a necessary condition for the 'complex predicate' constructions listed in (13):
In order for any of the constructions in (13) to be possible, the language must permit fully productive noun compounding.\textsuperscript{14}

(13)  
\begin{itemize}
  \item a. John painted the house red. (resultative)
  \item b. Mary picked the book up/picked up the book. (verb-particle)
  \item c. Fred made Jeff leave. (make-causative)
  \item d. Fred saw Jeff leave. (perceptual report)
  \item e. Bob put the book on the table. (put-locative)
  \item f. Alice sent the letter to Sue. (to-dative)
  \item g. Alice sent Sue the letter. (double-object dative)
\end{itemize}

The comparative evidence to support this hypothesis is presented in Table 5. The evidence from child language was obtained through the examination of spontaneous speech data of ten children acquiring English, drawn from the CHILDES. The results have revealed that the ages of acquisition for novel noun-noun compounding (diagnosed by the first clear use followed soon after by additional uses) robustly correlate with the ages of acquisition for verb-particle constructions (13b), causative-perceptual constructions (13c, d), put-locatives (13e), to-datives (13f), and double-object datives (13g).\textsuperscript{15}

<table>
<thead>
<tr>
<th>Language Group</th>
<th>Novel N-N compounds?</th>
<th>Transitive resultatives?</th>
<th>Separable Particles?</th>
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<tr>
<td>\textit{Austroasiatic:}</td>
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<td>Khmer</td>
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<td>Yes</td>
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<tr>
<td>\textit{Finno-Ugric:}</td>
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<td>Estonian</td>
<td>Yes</td>
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</tbody>
</table>

\textsuperscript{14} A caveat is in order. There are several languages that provide a surface equivalent of the English constructions in (13c–g) but still do not permit productive endocentric compounding. (For example, French permits a superficial counterpart of \textit{to}-datives.) Given the strong acquisitional evidence discussed below, Snyder (2001: 326, fn. 3) suggests that these surface equivalents have different syntactic sources.

\textsuperscript{15} See Sugisaki and Isobe (2000) for the acquisitional correlation between noun compounding and transitive resultatives.
<table>
<thead>
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<th>Language Family</th>
<th>Language</th>
<th>V</th>
<th>P</th>
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<td>Serbo-Croatian:</td>
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</table>

Thus, evidence from both comparative syntax and language acquisition provides considerable support for the 'global' parameter proposed by Snyder (1995, 2001), which relates various complex predicates (including verb-particles) to productive endocentric compounding.

In the present study, we have presented evidence that the availability of the verb-particle construction constitutes a necessary condition for the availability of P-stranding. Given Snyder's proposal regarding verb-particles, our results suggest that P-stranding is also tightly connected to the Compounding Parameter, in the sense that the availability of P-stranding requires the positive setting of this parameter. This finding indicates that the Compounding Parameter is more 'global' than Snyder originally envisioned, which is a preferable consequence from the viewpoint of grammar acquisition.16

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16 An important question remains as to how the connection between the Compounding Parameter and P-stranding should be expressed syntactically. One simple possibility, which will be evaluated in future research, would be to assume that Reanalysis is a variety of compounding.
6. Conclusions

In this study we have shown that both cross-linguistic variation and the time course of the acquisition of English provide support for Stowell's (1981, 1982) view that natural-language grammars permitting preposition-stranding are restricted to those permitting the V-particle-NP construction. In light of a recent proposal made in Snyder (1995, 2001), we interpreted these findings as an indication that P-stranding depends on the Compounding Parameter, which in turn suggests that the Compounding Parameter is more 'global' than Snyder imagined. Most importantly, this study has demonstrated that the time course of child language acquisition is a rich source of evidence concerning the innate constraints on language variation.

Appendix I:
P-stranding and the V-Particle-NP Construction
Cross-linguistically

(14) English:
   a. Who was Peter talking with?
   b. Peter picked up the book.

   a. Hvern hefur Pétur talað við?
      who has Peter talked with
      John picked up book-the

   a. Hvem har Per snakket med?
      who has Peter talked with
   b. Han spiste opp tørrifisken.
      he ate up dryfish-the

(17) Swedish (Merchant (2001: 93), Thráinsson (2000: 166)):
   a. Vem har Peter talat med?
      who has Peter talked with
   b. Hon kastade ut Johan.
      she threw out John

(18) Danish (Merchant (2001: 93), Thráinsson (2000: 166)):
   a. Hvem har Peter snakket med?
      who has Peter talked with
b. Jeg skrev op nummeret.
   I wrote up number-the

(19) Dutch (van Riemsdijk (1978: 91), Stowell (1982: 249)):
   a. omdat Jan mijn broer op belde.
      because John my brother up called
   b. Waar probeert zij t in te klimmen?
      where tries she in to climb

(20) Bete Gbadi (Koopman (1984: 45, 54))
   a. Ì yi [yu sìka kÓ jÌ kà] mÌ
      I Fut-A child rice Part give KA leave
      ‘I will go give rice to the child.’
   b. tá6lÉyÌ wà kÉ -ìØ lìlÈ [e]1 klÚ jìlÈ
      table WH they FUT-A-FOC food on put
      ‘It is the table they will put the food on.’

Appendix II:

Children’s First Clear Uses of Direct-Object Wh-Question,
V-Particle-NP Construction, and P-stranding

(21) Abe:
   b. *ABE: uhhuh fireman put out fire! (Abe 013: 85)
   c. *ABE: Mom # I blewed you in the fingers.
      Mom # what’s that for? (Abe 021: 274)

(22) Adam:
   b. *ADA: take off Adam paper. (Adam 02: 274)
   c. *ADA: where dat come from? (Adam 05: 9)

(23) Allison:
   b. *ALI: Mommy can we take out the pig. (Allison 6: 367)

(24) April:
   a. *APR: what goat say? (April 02: 854)
   b. *APR: owl to play with. (April 04: 419)

(25) Eve:
   a. *EVE: what doing # Mommy? (Eve 05: 69)
   b. *EVE: picking up a leaves [=? leave]. (Eve 10: 888)
   c. *EVE: it’s a bathtub for a boy get in. (Eve 18: 1980)
(26) Naomi:
   a. *NAO: what-'is Mommy doing? (Naomi 34: 78)
   b. *NAO: xxx put on this. (Naomi 37: 99)
   c. *NAO: what-'is this go in? (Naomi 70: 105)

(27) Nina:
   b. *NIN: dress up dolly. (Nina 01: 1000)
   c. *NIN: who's that you talking to # Momma. (Nina 32: 1429)

(28) Peter:
   a. *PET: Mommy # what you doing. (Peter 08: 528)
   b. *PET: take off this. (Peter 05: 2053)
   c. *PET: what this come from? (Peter 13: 2043)

(29) Sarah:
   a. *SAR: what my doing? (Sarah 033: 522)
   b. *SAR: xx brin(g) ba(ck) m(y) toys. (Sarah 046: 229)
   c. *SAR: whe(r)e you at. (Sarah 052: 332)

(30) Shem:
   a. *SHE: what is mommy doing? (Shem 01: 539)
   b. *SHE: Paper # i wantuh bring out the whole roll. (Shem 01: 1113)
   c. *SHE: i(t)'s step for sitting on. (Shem 15: 801)

REFERENCES


Department of Linguistics, U–1145
University of Connecticut
Storrs, Connecticut 06269–1145
USA
Sugisaki: koji.sugisaki@uconn.edu
Snyder: william.snyder@uconn.edu