Preposition Stranding: Its Parametric Variation and Acquisition

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1. Introduction

(1) Model of Language Acquisition:

Input Data of L → [CHILD] → UG → Grammar/L-language of L

(2) Two Modes of Inquiry into UG (Chomsky 2007:4):

a. Top-down Approach = Principles & Parameters
   How much must be attributed to UG to account for language acquisition?

b. Bottom-up Approach = Minimalist Program
   How little can be attributed to UG while still accounting for the variety of languages attained, relying on third factor [i.e. language-independent] principles?

(3) The Strong Minimalist Thesis (Chomsky 2010:52): Interfaces + Merge = Language

(4) The Locus of Cross-linguistic Variation:


b. Minimalist Program: Parameterization and diversity too would be mostly – maybe entirely – restricted to externalization (Chomsky 2010:60).

(5) Boeckx (2010:2):

"... if one takes minimalism and biolinguistics seriously, one should abandon the [substantive] notion of Parameter, the more so given its diminishing empirical validity ...

* I would like to thank Cedric Boeckx and William Snyder for their valuable comments on a number of aspects of this study, and for their constant encouragement and support.

2. Parametric Variation in P-stranding

(7) English: P-stranding possible

a. Who was Peter talking with t ?

b. ?? With whom was Peter talking t ? [Odd, in spoken English]

(8) Spanish: P-stranding impossible / Pied-piping obligatory

a. Quién hablaba Pedro con t ?

b. Con quién hablaba Pedro con t ?


(9) Cross-linguistic Generalization:
P-stranding is possible only in those languages that permit transitive verb-particle construction (especially the one with the order V-Particle-NP).

(10) Transitive Verb-Particle construction:

a. English: Mary lifted up the box.

b. Spanish: Maria levantó (*arriba) la caja.

(11) Cross-linguistic Survey (Sugisaki & Snyder 2002):

<table>
<thead>
<tr>
<th>Language</th>
<th>P-stranding?</th>
<th>Verb Particles?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Icelandic</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Norwegian</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Swedish</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Danish</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>English</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Dutch</td>
<td>(limited)</td>
<td>Yes</td>
</tr>
<tr>
<td>Frisian</td>
<td>(limited)</td>
<td>Yes</td>
</tr>
<tr>
<td>Afrikaans</td>
<td>(limited)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

(6) Goals:

a. Overview cross-linguistic generalizations about preposition stranding (P-stranding) proposed in the theoretical literature.

b. Evaluate some of these cross-linguistic generalizations with the data from child language.

c. Discuss the question of whether the "surviving" cross-linguistic variation of P-stranding can be located in the "externalization" component (i.e. PF component).
2.2. Kayne (1981)

(12) Cross-linguistic Generalizations:

a. Prepositional Complementizer (PC) construction is possible only in those languages that permit P-stranding.

b. Double Object (more accurately, Double Accusative) construction is possible only in those languages that permit P-stranding.

(13) PC construction:

a. English: John wants (for) Mary to leave.

b. French: * Jean veut (de) Marie partir.

(14) Double Accusative construction

a. English: John gave Mary a book.

b. French: * Jean a donné Marie un livre.

(15) Cross-linguistic Survey:

<table>
<thead>
<tr>
<th>Language</th>
<th>PC stranding?</th>
<th>P-stranding with A-mvt?</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Norwegian</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Swedish</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Icelandic</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Danish</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Spanish</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

2.3. Maling and Zaenen (1985)

(16) Cross-linguistic Generalization:
P-stranding with A-movement (prepositional passives or pseudopassives) is possible only in those languages that allow P-stranding with A-movement.

(17) English:

a. What did they talk about t?

b. This problem was already accounted for t.

2.4. Law (1998, 2006)

(21) Cross-linguistic Generalization:
Pied-piping of prepositions (P-pied-piping) is obligatory in those languages that have suppletive forms of prepositions and determiners (P+D suppletive forms).

(22) P+D suppletive forms:

a. French:

Jean a parlé du sujet le plus difficile.

‘Jean talked about the most difficult subject.’

b. Italian:

Gianni ha parlato del soggetto più difficile.

‘Gianni talked about the most difficult subject.’

(23) Cross-linguistic Survey:

<table>
<thead>
<tr>
<th>Language</th>
<th>French</th>
<th>Italian</th>
<th>Portuguese</th>
<th>German</th>
<th>English</th>
<th>Icelandic</th>
</tr>
</thead>
<tbody>
<tr>
<td>P+D Suppletive forms?</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Obligatory P-pied-piping?</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>
2.5. Merchant (2001)

(24) **Cross-linguistic Generalization** (Merchant 2001:92): \(^1\)
A language \(L\) will allow preposition stranding under sluicing iff \(L\) allows preposition stranding under regular wh-movement.

(25) English:
- a. Peter was talking with someone, but I don’t know (with) who.
- b. Who was Peter talking with?

(26) German:
- a. Anna hat mit jemandem gesprochen, *Anna has with someone spoken*
- aber ich weiß nicht *(mit) wem.*
- but I know not *with who*
- b. * Wem hat sie mit gesprochen? *who has she with spoken?*

(27) Cross-linguistic Survey:

<table>
<thead>
<tr>
<th>Language</th>
<th>P-stranding?</th>
<th>P-stranding under sluicing?</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Frisian</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Swedish</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Norwegian</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Danish</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Icelandic</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>German</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Greek</td>
<td>NO</td>
<td>NO</td>
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<td>Yiddish</td>
<td>NO</td>
<td>NO</td>
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<tr>
<td>Czech</td>
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<td>NO</td>
</tr>
<tr>
<td>Russian</td>
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<td>NO</td>
</tr>
<tr>
<td>Slovene</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Polish</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Bulgarian</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Serbo-Croatian</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Persian</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Hebrew</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Moroccan Arabic</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Basque</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

(28) **Hasegawa (2007)**

(29) **Swiping** (Merchant 2002):
(\(\text{sluiced} \text{wh-word inversion with prepositions in \text{Northern Germanic}}\)
- a. English:
  - Peter went to the movies, but I don’t know who with.
- b. Danish:
  - Per er gået I biografen, men jeg ved ikke *Per is gone to cinema but I know not*
  - hven med. *who with*
  - ‘Per went to the movies but I don’t know who with.’
- c. Norwegian:
  - % Per gikk på kino, men jeg veit ikke *Per went to the movies but I don’t know who with.*
  - hvem med. *who with*
  - ‘Per went to the movies but I don’t know who with.’

(30) Cross-linguistic Survey:

<table>
<thead>
<tr>
<th>P-stranding?</th>
<th>English</th>
<th>Danish</th>
<th>Icelandic</th>
<th>Spanish</th>
<th>French</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Swiping?</th>
<th>English</th>
<th>Danish</th>
<th>Icelandic</th>
<th>Spanish</th>
<th>French</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

2.7. Truswell (2009)

(31) **Cross-linguistic Generalization:**
\(\text{A’-extraction from Bare Present Participial Adjuncts (BPPA)}\) is possible only in those languages which allow pseudopassivization.

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1. For (potential) problems to this generalization, see Almeida & Yoshida (2007), Sato (in press), Stejpanović (2008), and Szczegelniak (2008). For an alternative analysis of (some of) these counterexamples, see Rodrigues, Nevins, and Vicente (2009).
(32) **A'-extraction out of Bare Present Participial Adjuncts** (an adjunct headed by a present participle):

a. **English:**
   What did John arrive **[whistling t]**?

b. **Norwegian:**
   Hvilken sang kom han **[plystrende på t]**?
   *Which song did he arrive whistling?*

c. **Swedish:**
   Vilken sång kom han **[visslande på t]**?
   *Which song did he come into the room whistling?*

(33) **Cross-linguistic Survey:**

<table>
<thead>
<tr>
<th>Language</th>
<th>P-stranding with A'-mvt?</th>
<th>P-stranding with A-mvt?</th>
<th>A'-extraction out of BPPA?</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Norwegian</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Swedish</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Icelandic</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Danish</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Faroese</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Dutch</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Greek</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

3. **Acquisitional Evaluation** [1]: P-stranding and Verb Particles²

(34) **Cross-linguistic Generalization** (Stowell 1981):

P-stranding is possible only in those languages that permit transitive verb-particle construction (especially the one with the order V-Particle-NP).

(35) In acquisitional terms, the grammatical knowledge required for V-Particle-NP construction is a proper subset of that required for P-stranding.

(36) **Prediction for Child English:**

The age of acquisition for V-Particle-NP construction should always be less than or equal to the age of acquisition for P-stranding. (No child should acquire P-stranding significantly earlier than V-Particle-NP construction.)

² This section is based on Sugisaki & Snyder (2002).

(37) **Corpora Analyzed:**

<table>
<thead>
<tr>
<th>Child</th>
<th>Collected by</th>
<th>Age Span</th>
<th># Child Utterances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abe</td>
<td>Kuczaj (1976)</td>
<td>2;04 – 5;00</td>
<td>4,214</td>
</tr>
<tr>
<td>Adam</td>
<td>Brown (1973)</td>
<td>2;03 – 4;10</td>
<td>9,253</td>
</tr>
<tr>
<td>Allison</td>
<td>Bloom (1973)</td>
<td>1;04 – 2;10</td>
<td>2,192</td>
</tr>
<tr>
<td>April</td>
<td>Higginson (1985)</td>
<td>1;10 – 2;11</td>
<td>2,321</td>
</tr>
<tr>
<td>Eve</td>
<td>Brown (1973)</td>
<td>1;06 – 2;03</td>
<td>12,473</td>
</tr>
<tr>
<td>Naomi</td>
<td>Sachs (1973)</td>
<td>1;02 – 4;09</td>
<td>16,634</td>
</tr>
<tr>
<td>Nina</td>
<td>Suppes (1973)</td>
<td>1;11 – 3;03</td>
<td>22,957</td>
</tr>
<tr>
<td>Peter</td>
<td>Bloom (1970)</td>
<td>1;09 – 3;01</td>
<td>24,422</td>
</tr>
<tr>
<td>Sarah</td>
<td>Brown (1973)</td>
<td>2;03 – 5;01</td>
<td>20,787</td>
</tr>
<tr>
<td>Shem</td>
<td>Clark (1978)</td>
<td>2;02 – 3;02</td>
<td>9,178</td>
</tr>
</tbody>
</table>

(38) For each child, we located the first clear uses of:

a. V-Particle-NP construction

b. a direct-object *wh*-question

c. a *wh*-question or a null-operator construction with P-stranding.

(39) Among the ten children, eight of them acquired V-Particle-NP constructions, direct-object *wh*-questions, and P-stranding by the end of their corpora.

(40) **Statistical method:** Binomial Test

a. Begin at the child’s first direct-object *wh*-question. Count the number of clear uses of the earlier construction (either V-Particle-NP or P-stranding), up to the point when the child begins using both constructions. Determine the relative frequency of the two constructions in the next four transcripts, or until the end of the child’s corpus, whichever comes first.

b. Use the Binomial Test to calculate the probability of the child’s producing at least the observed number of examples of the first construction, before starting to use the second construction, simply by chance.

c. Null hypothesis: Both constructions became available concurrently, and had the same relative frequency observed in later transcripts.

(41) **Eve:** *wh*-question V-Prt-NP P-stranding = .667

The probability of producing 9 instances of V-Particle-NP construction before P-stranding simply by chance: (.333)^9 < .001
Results:

a. Six of the eight children acquired the V-Particle-NP construction significantly earlier than P-stranding, by Binomial Test (Eve, Naomi, Nina, Peter, Sarah, Shem).

b. The remaining two children acquired the V-Particle-NP construction and P-stranding at approximately the same age (no significant difference, by Binomial Test).

c. Crucially, no child in our study acquired P-stranding significantly earlier than the V-Particle-NP construction.

These findings from child English strengthen Stowell’s generalization that languages permitting P-stranding are a proper subset of those permitting transitive verb-particle construction.

4. Acquisitional Evaluation [2]: P-pied-piping and P+D Suppletion

Cross-linguistic Generalization (Law 1998, 2006):
Pied-piping of prepositions (P-pied-piping) is obligatory in those languages that have suppletive forms of prepositions and determiners (P+D suppletive forms).

Parameter of D-to-P incorporation (Law 1998, 2006):
A language [has, does not have] D-to-P incorporation.

Syntactic constraint on suppletion (Law 1998:227): Elements that undergo suppletive rules must form a syntactic unit X'.

D-to-P incorporation:

\[
\begin{array}{c}
\text{PP} \\
\text{P} \\
\text{D} \\
\text{t} \\
\text{NP}
\end{array}
\]

Given the constraint in (45), only those languages that have the positive setting of the relevant parameter are permitted to have P+D suppletive forms.

Languages with the positive setting:

\[
[cr \ [vr \ldots [vr \ldots [vr P+D [vr t NP ] \]] about + which topic ]]]
\]

Languages with the negative setting:

\[
[cr \ [vr \ldots [vr \ldots [vr P [vr D NP ] \]] which topic ]]]
\]

In acquisitional terms, the analysis by Law (1998, 2006) suggests that the only language-particular knowledge that French-learning children need to acquire in order to induce obligatory P-pied-piping is (i) the knowledge about the availability of P+D suppletive forms and (ii) the knowledge about overt wh-movement.

Prediction for Child French:
A French-learning child should exhibit P-pied-piping as soon as she acquires P+D suppletive forms and overt wh-movement.

Corpora Analyzed:

<table>
<thead>
<tr>
<th>Child</th>
<th>Collected by</th>
<th>Age Span</th>
<th># Child Utterances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grégoire</td>
<td>Champaud</td>
<td>1.09 – 2.05</td>
<td>3,237</td>
</tr>
<tr>
<td>Philippe</td>
<td>Suppes et al. (1974)</td>
<td>2.01 – 3.03</td>
<td>13,739</td>
</tr>
</tbody>
</table>

For each child, we located the first clear uses of:

a. an overt wh-movement of que ‘what’ or qui ‘who’ from a complement position
b. a wh-question with P-pied-piping
c. a P+D suppletive form.

To count as a clear use, we required the P+D suppletive form to appear after verbs, nouns, or adjectives that take a PP complement, thereby eliminating the possibility that the child is using the relevant form as a pure determiner.

One child (Philippe) acquired direct-object wh-questions, wh-questions with P-pied-piping, and P+D suppletive forms by the end of his corpus.

Statistical method: Binomial Test

\[
\frac{P+D}{\text{relative frequency of P+D}} = \frac{P-pied-piping}{\text{relative frequency of P-pied-piping}} = .165
\]

The probability of producing 19 instances of P+D before P-pied-piping simply by chance:

\[(.835)^{19} = .033\]
(58) Results:
  a. The age-discrepancy between the P+D suppletive form and P-pied-piping was statistically significant ($p < .05$, by Binomial Test).
  b. This indicates that Philippe acquired P-pied-piping significantly later than overt wh-movement and P+D suppletion, contrary to the prediction from the parametric proposal by Law (1998, 2006).
  c. Our findings from the acquisition of French directly contradict Law’s view that the existence of P+D suppletive forms in a given language constitutes a sufficient condition for the obligatory pied-piping of prepositions.

(59) Our results are compatible only with an analysis in which the availability of P+D suppletive forms is a necessary condition for P-pied-piping. Yet, such an analysis would be far from appealing, given that it permits adult grammars that have P+D suppletive forms but still permit P-stranding.

(60) Evidence from child French argues against the view that the parameter of P-stranding should relate the lack of preposition stranding to the existence of suppletive forms of prepositions and determiners.

5. Acquisitional Evaluation [3]: P-stranding and Swiping

(61) Cross-linguistic Generalization (Hasegawa 2007): Swiping is possible only in those languages that allow P-stranding.

(62) “P-stranding + PP movement” analysis:
  (John was talking, but I don’t remember …)
  a. rightward movement of PP:
     \[ \text{[r] he was talking} \quad [\text{r about what}] \quad \]
  b. wh-movement + P-stranding:
     \[ \text{[r] he was talking} \quad [\text{r about what}] \quad \]
  c. sluicing (IP-deletion) in PF:
     \[ \text{[r what he was talking} \quad [\text{r about t}] \quad \]

(63) Under the “P-stranding + PP movement” approach, the grammatical knowledge required for P-stranding constitutes a proper subset of the grammatical knowledge required for swiping.

(64) Prediction for Child English:
English-learning children should acquire P-stranding with wh-movement significantly earlier than or at around the same time as swiping.

(65) Corpora Analyzed:

<table>
<thead>
<tr>
<th>Child</th>
<th>Collected by</th>
<th>Age Span</th>
<th>#Child Utterances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abe</td>
<td>Kuczaj (1976)</td>
<td>2;04 – 5;00</td>
<td>22,633</td>
</tr>
<tr>
<td>Adam</td>
<td>Brown (1973)</td>
<td>2;03 – 4;10</td>
<td>45,555</td>
</tr>
<tr>
<td>Anne</td>
<td>Theakston et al. (2001)</td>
<td>1;10 – 2;09</td>
<td>19,902</td>
</tr>
<tr>
<td>Aran</td>
<td>Theakston et al. (2001)</td>
<td>1;11 – 2;10</td>
<td>17,193</td>
</tr>
<tr>
<td>Becky</td>
<td>Theakston et al. (2001)</td>
<td>2;00 – 2;11</td>
<td>23,339</td>
</tr>
<tr>
<td>Carl</td>
<td>Theakston et al. (2001)</td>
<td>1;08 – 2;08</td>
<td>25,084</td>
</tr>
<tr>
<td>Dominic</td>
<td>Theakston et al. (2001)</td>
<td>1;10 – 2;10</td>
<td>21,180</td>
</tr>
<tr>
<td>Eve</td>
<td>Brown (1973)</td>
<td>1;06 – 2;03</td>
<td>11,563</td>
</tr>
<tr>
<td>Gail</td>
<td>Theakston et al. (2001)</td>
<td>1;11 – 2;11</td>
<td>16,973</td>
</tr>
<tr>
<td>Joel</td>
<td>Theakston et al. (2001)</td>
<td>1;11 – 2;10</td>
<td>17,916</td>
</tr>
<tr>
<td>John</td>
<td>Theakston et al. (2001)</td>
<td>1;11 – 2;10</td>
<td>13,390</td>
</tr>
<tr>
<td>Liz</td>
<td>Theakston et al. (2001)</td>
<td>1;11 – 2;10</td>
<td>16,569</td>
</tr>
<tr>
<td>Naomi</td>
<td>Sachs (1973)</td>
<td>1;02 – 4;09</td>
<td>15,960</td>
</tr>
<tr>
<td>Nicole</td>
<td>Theakston et al. (2001)</td>
<td>2;00 – 3;00</td>
<td>16,950</td>
</tr>
<tr>
<td>Nina</td>
<td>Suppes (1973)</td>
<td>1;11 – 3;03</td>
<td>31,505</td>
</tr>
<tr>
<td>Peter</td>
<td>Bloom (1970)</td>
<td>1;09 – 3;01</td>
<td>26,891</td>
</tr>
<tr>
<td>Ruth</td>
<td>Theakston et al. (2001)</td>
<td>1;11 – 2;11</td>
<td>20,419</td>
</tr>
<tr>
<td>Sarah</td>
<td>Brown (1973)</td>
<td>2;03 – 5;01</td>
<td>37,012</td>
</tr>
<tr>
<td>Shem</td>
<td>Clark (1978)</td>
<td>2;02 – 3;02</td>
<td>17,507</td>
</tr>
<tr>
<td>Warren</td>
<td>Theakston et al. (2001)</td>
<td>1;10 – 2;09</td>
<td>16,651</td>
</tr>
</tbody>
</table>

(66) For each child, we located the first clear uses of:
  a. swiping
  b. wh-movement involving P-stranding.

(67) Aran exhibited the first clear use of swiping at the age of 2;07.

(68) a. *CHI: what in ? (Aran26a.cha)
  b. *CHI: who for ? (Aran27a.cha)
  c. *CHI: who from ? (Aran28b.cha)
  d. *CHI: what with ? (Aran33a.cha)

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4. This section is based on Sugisaki (2008).
P-stranding under wh-movement was frequently observed in Aran's speech. The first clear use of P-stranding appeared at the age of 2:05.

Statistical method: Binomial Test

P-stranding relative frequency of swiping = .40
swiping relative frequency of P-stranding = .60

The probability of producing 14 instances of P-stranding before swiping simply by chance: (.60)^14 = .0007

The finding from child English is consistent with Hasegawa's generalization that swiping is possible only in those languages that permit P-stranding.


6.I. P-stranding and Recursive Compounds

Cross-linguistic Generalization (Stowell 1981):
P-stranding is possible only in those languages that permit transitive verb-particle construction (especially the one with the order V-Particle-NP).

Snyder (2001):
Transitive verb-particle constructions are permitted only in those languages that allow recursive compounds.

a. English: waste disposal plan
b. Italian: *rifiuti smaltimento piano

Cross-linguistic Survey:

<table>
<thead>
<tr>
<th>Language</th>
<th>Transitive Verb Particles?</th>
<th>Recursive compounds?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Khmer</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Estonian</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Dutch</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Mandarin</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Thai</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Japanese</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>American Sign Language</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Egyptian Arabic</td>
<td>NO</td>
<td>NO</td>
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<tr>
<td>Javanese</td>
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<td>NO</td>
</tr>
<tr>
<td>Spanish</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Serbo-Croatian</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

Revised Cross-linguistic Generalization:
P-stranding is possible only in those languages that allow recursive compounds.

6.2. PF Approach to the Parameter of P-stranding

Tokizaki (2010, 2011):
The generalization in (76) can be derived from the canonical word-stress location in a language.

The Canonical Word-stress Location:

a. English, Swedish, Norwegian… = Right-oriented stress
Stress is located on antepenultimate, penultimate, or ultimate syllable.
b. French, Italian, Spanish… = Right-edge stress
Stress is located on either penultimate or ultimate syllable.

Phonological Constraint on Recursive Compounds:
The main stress location of compounds must correspond to the canonical word-stress location in that language.

English:

a. Assign stress to the most deeply embedded element (Cinque 1993):

[i] plan [ disposal [ waste ] ]

b. Movement to the specifier position:

(i) [ plan [ disposal [ waste ] ] ]

(ii) [ plan [ [ waste ] disposal ] ]

(iii) [ [ waste ] disposal ] plan ]

→ Correspond to antepenultimate stress, and hence satisfy (79)

Italian:

a. Assign stress to the most deeply embedded element (Cinque 1993):

[i] piano [ smaltimento [ rifiuti ] ]

b. Movement to the specifier position:

(i) [ piano [ smaltimento [ rifiuti ] ] ]

(ii) [ piano [ [ rifiuti ] smaltimento ] ]

(iii) [ [ rifiuti ] smaltimento ] piano ]

→ Correspond to antepenultimate stress, and hence violate (79)
Phonological Constraint on P-stranding:

a. In order for P-stranding to be possible, the verb and the preposition must undergo “phonological word-formation”.
b. The resulting “word” must conform to the canonical word-stress location in that language.

References


(82) A verb tends to have more than one syllable, and the preposition tends to be mono-syllabic.
b. Prepositions generally do not have stress.

(83) In order for stranding to be possible, verb and the preposition must undergo “phonological word-formation”.

(84) a. English: … working with t
( g σ σ ) → antepenultimate stress, which satisfies (82)
b. French: … travaillez avec t
( g σ σ ) → antepenultimate stress, which violates (82)

(85) a. Under what condition is ellipsis possible?
b. * What condition is ellipsis possible under? (Chung et al. 1995)
c. Ellipsis is possible under some condition, but we are not sure what condition.

(86) A language L will allow preposition stranding under sluicing if L allows preposition stranding under regular wh-movement.

(87) A language L will allow preposition stranding under sluicing if L allows preposition stranding under regular wh-movement.

(88) Evidence from child language strengthens Stowell’s (1981) cross-linguistic generalization that languages permitting P-stranding are a proper subset of those permitting transitive verb-particle construction.

(89) This “parametric” variation may stem from independently motivated cross-linguistic differences in the “externalization” (i.e. PF) component.

(90) Child language is potentially a very useful tool to find out “significant” cross-linguistic generalizations, those that should be subjected to minimalist / biolinguistic scrutiny and reformulation.

7. Conclusion

Evidence from child language strengthens Stowell’s (1981) cross-linguistic generalization that languages permitting P-stranding are a proper subset of those permitting transitive verb-particle construction.

This “parametric” variation may stem from independently motivated cross-linguistic differences in the “externalization” (i.e. PF) component.

Child language is potentially a very useful tool to find out “significant” cross-linguistic generalizations, those that should be subjected to minimalist / biolinguistic scrutiny and reformulation.


