How Languages Mix

Language Diversity, Contact and Change

Bao Zhiming
National University of Singapore

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Objective of the talk

A two-step evolutionary approach to grammatical borrowing:

a. The Big Bang
   - Substratum transfer targets grammatical system

b. Post-transfer stabilization by natural selection
   - Contributing languages and linguistic universals are the natural selectors that determine success/failure of component features of transferred system

Unless otherwise noted, the talk is based on Bao (2005, 2009, 2010, 2015).
Heritage Languages of Singapore

a. English, scholastic, vernacular, pidginized

b. Chinese dialects, excluding Mandarin
   i. Hokkien, 40.6% Fujian
   ii. Teochew, 22.5% Guangdong
   iii. Cantonese, 18.9% Guangdong
   iv. Hainanese, 7.2% Hainan
   v. Hakka, 6.7% Guangdong
   vi. All other dialects, 4.1% Various

c. Mandarin, scholastic, vernacular

d. Malay, scholastic, vernacular; Bazaar Malay, Baba Malay

e. Tamil, and other languages of India

f. Other languages (Armenian, Arabic, Persian, ...)
The Aspectual System of Singapore English

<table>
<thead>
<tr>
<th>Form</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Perfective:</td>
<td>S <em>already</em></td>
</tr>
<tr>
<td></td>
<td>I copy <em>already</em>.</td>
</tr>
<tr>
<td></td>
<td>They finish their work <em>already</em>.</td>
</tr>
<tr>
<td>• Emphatic:</td>
<td><em>Got</em> V</td>
</tr>
<tr>
<td></td>
<td>I <em>got</em> stay in a kampong.</td>
</tr>
<tr>
<td></td>
<td>I <em>got</em> do <em>already</em>.</td>
</tr>
<tr>
<td>• Experiential:</td>
<td><em>Ever</em> V</td>
</tr>
<tr>
<td></td>
<td>I <em>ever</em> heard of this word.</td>
</tr>
<tr>
<td></td>
<td>I <em>ever</em> told somebody before</td>
</tr>
<tr>
<td></td>
<td>that I need your e-mail account.</td>
</tr>
<tr>
<td>• Inchoative:</td>
<td>S <em>already</em></td>
</tr>
<tr>
<td></td>
<td>No face <em>already</em>.</td>
</tr>
<tr>
<td></td>
<td>They are not equal <em>already</em>.</td>
</tr>
<tr>
<td>• Habitual:</td>
<td><em>Got</em> V</td>
</tr>
<tr>
<td></td>
<td>You <em>got</em> eat durian?</td>
</tr>
</tbody>
</table>
The Aspectual System of Singapore English

Like English, but not quite English

- **Perfective** (S already)
  - I copy *already*.
  - = past tense: I *copied*.
  - ambiguous

- **Experiential** (ever S)
  - I *ever* heard of this word.
  - ≈ perfect: I have heard of this word

- **Emphatic** (got V)
  - I *got* do already.
  - ≈ past tense/perfect: I *did* do (it)/I have done (it)

- **Inchoative** (S already)
  - They are not equal *already*.
  - ≱ past tense: They were not equal.

- **Habitual** (got V)
  - You *got* eat durian?
  - = simple tense: Do you eat durian?
  - ambiguous
The Aspectual System of Singapore English

Like English, but not quite English (Cao and Bao 2018)

*Not/No:* This is *not* difficult.
Why you scold me for *no* reason.
He *no* friends.

*Never:* Wrong already. *Never* calculate properly.
Wrong. (You) *did not* calculate (it) properly.
I said already what. You *never* listen.
I have already said (it). You *did not* listen.

*general*  
*possession*  
*perfective*
The Aspectual System of Singapore English

Like Chinese

**Perfective** (*already* = *le 了*)

- tamen wancheng *le* zuoye.
  - ‘They finish their work *already.*’

- wo ting *guo* zhe-ge ci.
  - ‘I ever heard of this word.

**Experiential** (*ever* = *guo 过*)

**Emphatic** (*got* = *you 有*)

- wo *you* zuo.
  - ‘I got do already.’

- 我有做。
- 我听了这个词。
The Aspectual System of Singapore English

Like Chinese

Inchoative \((already = le 了)\)

\[\text{tamen bu xiangtong } le.\]  
\[\text{他们不相同了。}\]
\[\text{‘They are not equal } already.’\]

Habitual \((got = you 有)\)

\[\text{wo } you \text{ chi liulian.}\]  
\[\text{我有吃榴莲。}\]
\[\text{‘I } got \text{ eat durian.’}\]

\textit{Already} and \textit{got} are ambiguous in Singapore English.
The Aspectual System of Singapore English

But not quite Chinese

<table>
<thead>
<tr>
<th>V-V</th>
<th>wo qu haibian <em>zou-zou</em>. 我去海边走走。</th>
<th>‘I go to the beach to walk for a while.’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>wo qu haibian <em>zuo-zuo</em>. 我去海边坐坐。</td>
<td>‘I went to the beach to sit for a while.’</td>
</tr>
<tr>
<td>V-zhe V</td>
<td>tamen <em>zhan-zhe xie</em> zuoye. 他们站着写作业。</td>
<td>‘They stood and wrote their work.’</td>
</tr>
<tr>
<td></td>
<td>tamen <em>chang-zhe</em> ge hui jia. 他们唱着歌回家。</td>
<td>‘They returned home while singing songs.’</td>
</tr>
</tbody>
</table>
The Aspectual System of Singapore English

But not quite Chinese

V-V A few fossils
• chop-chop
• don’t play-play.
• I go to beach jalan-jalan.
• ?I go to beach walk-walk.
• *I go to beach sit-sit.

V-zhe V Not a single fossil attested
The Aspectual System of Singapore English

<table>
<thead>
<tr>
<th>Summary</th>
<th>Imperfective</th>
<th>Perfective</th>
<th>Perfective</th>
<th>Perfective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
</tr>
<tr>
<td>Perfective</td>
<td>Inchoative</td>
<td>S already</td>
<td>V</td>
<td>V</td>
</tr>
<tr>
<td>Regular</td>
<td>Habitual</td>
<td>got V</td>
<td>V</td>
<td>V</td>
</tr>
<tr>
<td>Emphatic</td>
<td>Tentative</td>
<td>V-Zhe V</td>
<td>V</td>
<td>V</td>
</tr>
<tr>
<td>Experiential</td>
<td>Background</td>
<td>V-Zhe V</td>
<td>V</td>
<td>V</td>
</tr>
</tbody>
</table>

The aspectual system of Singapore English is not a loose collection of aspectual categories randomly selected from its ecology.
The Big Bang

Two types of grammatical borrowing

• No new language emerges: normal situation
  • Source language: contributes features
  • Borrowing language: incorporates foreign features
• A new language emerges: speciation
  • Contact language: emerging language
  • Substrate language: contributes grammatical system
  • Lexifier language: provides morphosyntactic exponence
The Big Bang

• System Transfer
  • Grammatical system transfers from Substrate Language to Contact Language as system
• Lexifier Filter
  • Transferred grammatical system is filtered through the morphosyntax of the Lexifier Language

Creator-developer of contact language faces antagonistic tension: being faithful to both Substrate Language (native) and Lexifier Language (target).
The Filtering of Grammatical System

Four Remarks:

The contact system is the substrate system filtered through the lexifier grammar.

Features for which the lexifier has well-formed exponents are filtered in.

Features for which the lexifier has no well-formed exponents are filtered out.

The contact system is not an exact replica of either the substrate or lexifier system.
Post-transfer stabilization as natural selection

• After the grammatical system is incorporated into the contact language, it needs to stabilize.

• Stabilization is subject to the impact of two selectors:
  • Language contributing the morphosyntactic materials
  • Linguistic universals

We will take a look at *already* and *one*. 
Positive lexifier effect: the case of *already*

The position of *already* in ICE-SIN and SCoRE (Bao and Hong 2006).

<table>
<thead>
<tr>
<th></th>
<th>ICE-SIN</th>
<th>SCoRE</th>
<th>ICE-GB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>token</td>
<td>token</td>
<td>token</td>
</tr>
<tr>
<td>Initial</td>
<td>6</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>Medial</td>
<td>85</td>
<td>310</td>
<td>36</td>
</tr>
<tr>
<td>Final</td>
<td>203</td>
<td>909</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>294</td>
<td>1239</td>
<td>294</td>
</tr>
</tbody>
</table>

Clause-final *already* is more robust over the 20-year period.

*Already* does not violate English morphosyntax, and is free to develop.
Positive lexifier effect: the case of *already*

Completed *already* two pages.

You try writing *already* your introductory paragraph.

I give you *already* the clue.

Three Remarks:

- All 6 tokens are perfective, as expected since it exponences *V le NP*.
- *V already NP* is ungrammatical in English.
- Post-transfer stabilization as filtering: the continued impact of English.
### One in Singapore English

<table>
<thead>
<tr>
<th>Frame</th>
<th>Chinese</th>
<th>English</th>
<th>Sing English</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. A-one</td>
<td>da de</td>
<td>large one</td>
<td>large one</td>
</tr>
<tr>
<td>b. N-one</td>
<td>si de</td>
<td>silk one</td>
<td>silk one</td>
</tr>
<tr>
<td>c. Pr-one</td>
<td>wo de</td>
<td>my one</td>
<td>my one</td>
</tr>
<tr>
<td>d. XP-one</td>
<td>zai taizi shang de</td>
<td>-</td>
<td>on the table one</td>
</tr>
<tr>
<td></td>
<td>mai liulian de</td>
<td>-</td>
<td>sell durian one</td>
</tr>
<tr>
<td></td>
<td>wo mai de</td>
<td>-</td>
<td>I buy one</td>
</tr>
<tr>
<td></td>
<td>(shi) wo mai de</td>
<td>-</td>
<td>I buy ONE!</td>
</tr>
<tr>
<td>e. XP-ONE</td>
<td>wo mai de shu</td>
<td>the one I bought</td>
<td>the one I bought</td>
</tr>
<tr>
<td>f. one-XP</td>
<td></td>
<td>the book I bought</td>
<td></td>
</tr>
<tr>
<td>g. XP one N</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Constraint on pronominal one:**  *one-N*
Observations

1. English *one* is a pronominal; *de* is not.

2. Multifunctionality of Chinese *de*
   a. Pre-modification:
      i. Behaves like pronominal if N is null:
      ii. Behaves like relative pronoun if XP=S:
   b. Emphasis:

3. Multifunctionality of Singapore English *one*
   a. Pronominal:
   b. Behaves like relative pronoun; retains pronominal ‘feel’:
   c. Emphasis:
Chinese, English and Singapore English compared

<table>
<thead>
<tr>
<th>Function</th>
<th>Chinese</th>
<th>Sing English</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Pronominal</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>b. Pre-modification</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>c. Emphasis</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>

Three Remarks:

- Pronominal function is common for all three languages.
- Pre-modification is found in Chinese, not in Singapore English and English.
- Emphasis is found in Chinese and Singapore English, not in English.
Explanation – Transfer and Filter

Set-theoretic approach to exponencing (Bao 2009):

$$F_k = F_i \cup F_j$$

$F_i$, substrate; $F_j$, lexifier; $F_k$, contact

Frames of Chinese $de$:  $\{A/N/Pr-de, A/N/Pr-de N, XP-de, XP-de N, XP-DE\}$

Frames of English $one$:  $\{A/N/Pr-one, one, one XP\}$

Frames of Sing Eng $one$:  $\{A/N/Pr-one, one, one XP, XP-one, XP-ONE\}$

Four Remarks:

*De/*$one$ are exponents of the same construction in Chinese/Singapore English.

All substrate functions of $one$ are present at Big Bang.

*XP-one N* is filtered out of Singapore English by constraint $*one-N$.

Post-transfer stabilization is evolution by natural selection.
## Explanation – Frequency of Use

<table>
<thead>
<tr>
<th>Frame</th>
<th>ICE-GB token</th>
<th>%</th>
<th>ICE-SIN token</th>
<th>%</th>
<th>SCoRE (English) token</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. A-one</td>
<td>105</td>
<td>51.5</td>
<td>134</td>
<td>35.7</td>
<td>758</td>
<td>58.0</td>
</tr>
<tr>
<td>b. N-one</td>
<td>18</td>
<td>8.8</td>
<td>37</td>
<td>9.9</td>
<td>70</td>
<td>5.4</td>
</tr>
<tr>
<td>c. Pr-one</td>
<td>5</td>
<td>2.5</td>
<td>3</td>
<td>0.8</td>
<td>56</td>
<td>4.3</td>
</tr>
<tr>
<td>d. one-XP</td>
<td>76</td>
<td>37.3</td>
<td>121</td>
<td>32.3</td>
<td>341</td>
<td>26.1</td>
</tr>
<tr>
<td>e. XP-one</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>1.6</td>
<td>9</td>
<td>0.7</td>
</tr>
<tr>
<td>f. XP-ONE</td>
<td>-</td>
<td>-</td>
<td>74</td>
<td>19.7</td>
<td>73</td>
<td>5.6</td>
</tr>
<tr>
<td>Total</td>
<td>204</td>
<td></td>
<td>375</td>
<td></td>
<td>1,307</td>
<td></td>
</tr>
</tbody>
</table>

**Two Remarks:**

- **XP-one** is lower in frequency of use than **XP-ONE** in both corpora.
- **XP-one** and **XP-ONE** exhibit a clear decline in usage over the 20 years that separate the two corpora.

Exclude tokens of ‘this/that/which one’.
A closer look at XP-*one* and XP-*ONE*

**XP-*one*:**

They go hospital and buy the blood they donate *one*.

The in front *one*.

Transfer Analysis: *one* as pronominal

**Pronominal XP-*one* violates English grammar.**
A closer look at XP-one and XP-ONE

XP-one:
They go hospital and buy the blood they donate *one*.
The in front *one*.

Grammaticalization Analysis: *one* as relative pronoun (Alsagoff and Ho 1998):

the blood $[s, [s \text{ they donate}] \; \text{*one*}]$


<table>
<thead>
<tr>
<th>VO</th>
<th>OV</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-S’</td>
<td>N-S’ or S’-N</td>
</tr>
<tr>
<td>Comp-S</td>
<td>Comp-S or S-Comp</td>
</tr>
</tbody>
</table>

XP-one violates typological universal.
A closer look at XP-one and XP-ONE

**XP-ONE:**

- This one idiot ah, anyhow write *one*.
- ‘This one is an idiot. Write without thinking.’
- Not nice *one*.

Transfer Analysis: *one* is exponent of XP-DE.

Singapore English has a productive system of particles (Gupta 1992)

- I suppose that’s part of life *lah*.
- But today got some rice left *leh*.
- It sounds like that *meh*?

### Two Remarks:

*One* joins the active particle system of Sing English; violates no universal.

*XP-ONE* is not hindered by English grammar, and enjoys high productivity.

<table>
<thead>
<tr>
<th>particles</th>
<th>tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td>lah</td>
<td>1606</td>
</tr>
<tr>
<td><em>one</em></td>
<td>74</td>
</tr>
<tr>
<td><em>leh</em></td>
<td>38</td>
</tr>
<tr>
<td><em>meh</em></td>
<td>16</td>
</tr>
</tbody>
</table>
Frequencies again...

<table>
<thead>
<tr>
<th></th>
<th>ICE-SIN</th>
<th>SCoRE (English)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>token</td>
<td>%</td>
</tr>
<tr>
<td>e. XP-one</td>
<td>6</td>
<td>1.6</td>
</tr>
<tr>
<td>f. XP-ONE</td>
<td>74</td>
<td>19.7</td>
</tr>
</tbody>
</table>

Question 1. Why do the two frames exhibit different productivity?  
Question 2. Why do the two frames decline in usage over one generation?

Post-transfer stabilization as natural selection: the continued impact of English and linguistic universals.
Conclusion...

How languages mix:

1. Big Bang: grammatical system transfers to contact language
   - Exponencing of transferred system is subject to grammatical filtering by language contributing morphosyntactic materials

2. Stabilization of transferred system
   - Subject to filtering by contributing languages, and linguistic universals

From the evolutionary perspective:
Languages in the ecology and linguistic universals act as natural selector.
References


Thanks!