

## The aspectual system of Singapore English and the systemic substratist explanation<sup>1</sup>

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(Received 23 April 2003; revised 13 December 2004)

Singapore English is a contact language with a constant linguistic substratum and superstratum. It lends itself to an interesting case study on how linguistic neologisms emerge out of a pool of competing features from the typologically distinct languages active in the contact ecology. This paper investigates the aspectual system of Singapore English and that of Chinese, the main substrate language, and of English, the lexical-source language. Despite the presence of competing aspectual categories from the two languages, the aspectual system of Singapore English is essentially the Chinese system filtered through the morphosyntax of English. Substrate influence is systemic, and the competing grammatical subsystems do not mix.

The aspectual system of Singapore English, a contact language with a constant linguistic ecology, is markedly different from that of English, the lexical-source language. Although strikingly similar to the aspectual system of Chinese, the main substrate language, it is nevertheless not point-by-point identical to the Chinese system. A few aspectual categories that exist in the Chinese system are curiously missing in the Singapore English system. In this paper I present an analysis of the latter system and show that the partial convergence between Singapore English and Chinese in aspectual system results from the interaction of two intuitively simple constraints. First, substrate transfer in an ecology with a constant and active substratum involves an entire grammatical subsystem; secondly, the morphosyntactic exponence of the transferred system must meet the grammaticality requirements of the lexical-source language. The lexical-source language acts like a filter, sifting out those categories of the transferred subsystem for which its grammar

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[1] Earlier versions of this paper were presented at the SPCL conference organized by the University of Coimbra, Portugal, at Tsinghua University, Taiwan, and at the University of Manchester, United Kingdom. I thank Umberto Ansaldò, William Croft, Viviane Deprez, Claire Lefebvre, Yaron Matras, Steve Matthews, Dylan Tsai, Virginia Yip, Debra Ziegeler, and three anonymous *JL* referees for their comments. All errors of fact and interpretation are my own.

The work is partially supported by National University of Singapore faculty research grants R103-000-015-112 and R103-000-035-112. I have also benefited from a visit in 2004 to the Centre of Chinese Linguistics, Beijing University. I would like to thank Lu Jianming, the director of the Centre, for his generous support.

cannot provide straightforward morphosyntactic exponence. Thus, the aspectual system of Singapore English is not a random collection of English and Chinese aspectual categories available from the linguistic pool in its contact ecology.

The paper is organized as follows. In section 1 I describe the aspectual system of Singapore English and compare it with that of English and Chinese. In section 2 I discuss the relexification theory developed by Claire Lefebvre and her associates. My analysis will be based on this theory. In section 3 I show that the theory needs to incorporate two constraints alluded to earlier in order to handle the clustering effect of substrate transfer. The two constraints stipulate the distinct roles of the substrate and lexical-source languages in shaping the grammar of the contact language. Section 4 concludes the paper.

## I. THE ASPECTUAL SYSTEM OF SINGAPORE ENGLISH

The aspectual categories of Singapore English have been described in the literature, especially the perfective marker *already* and, to a lesser extent, the experiential marker *ever* (see Tay 1979; Platt & Weber 1980; Kwan-Terry 1989; Ho & Platt 1993; Bao 1995; Ho & Wong 2001). Chinese influence on the usage of *already* and *ever* has not escaped the attention of these authors. Unlike previous works, the present study approaches the aspectual categories as a self-contained grammatical subsystem. By comparing the similarities and the differences of the aspectual system of Singapore English with those of the aspectual systems of English and Chinese,<sup>2</sup> which along with Malay, Tamil, and a few other Indian languages make up its linguistic ecology, I hope to shed light on the systemic nature of substrate transfer.

[2] The top three indigenous dialects spoken by early Chinese immigrants to Singapore are the Minnan dialects of Hokkien and Teochew, and Cantonese. Mandarin, however, was the preferred language of instruction in Chinese-medium schools in colonial Singapore. Since independence in 1968, the Singaporean government have adopted an English-medium education policy, and at the same time promoted Mandarin as a lingua franca among the Chinese communities separated by the mutually unintelligible dialects. Nowadays Mandarin is the dominant Chinese dialect in Singapore, especially among the young (Literacy and Language, Advance Data Release No. 3, Singapore Census of Population 2000). See Bao 2001 for a historical overview of Singapore English.

Despite the lack of mutual intelligibility, the dialects share a 'universal Chinese grammar' (Chao 1968: 13). This common grammatical core includes the aspectual system; differences exist only in morphosyntactic exponence. For example, Mandarin *le* corresponds to Hokkien *u-V* and *S-liau* (*le* and *liau* are cognates), and to Cantonese *V-tso*. Indeed, *liau* is more commonly heard in Singaporean Mandarin than *le*. These differences do not affect the argument of this paper. For convenience, I will cite data from Mandarin. Scholarly works in English include Chao 1968 and Li & Thompson 1981 (Mandarin), Matthews & Yip 1994 (Cantonese), and Bodman 1955 (Hokkien).

I thank Umberto Ansaldo, Steve Matthews, and Virginia Yip for helpful caution on using Mandarin as a substitute for the southern dialects. Their work seeks to cast doubt on Chao's view, almost unquestioned in Chinese linguistics (Ansaldo 1999; Matthews & Yip 2001). Their arguments, however, do not affect the aspectual system.

1.1 *The perfective aspect*1.1.1 *Already*

There are two perfective markers in Singapore English, *already* and *ever*. They are exemplified in (1).<sup>3</sup>

- (1) (a) I see the movie **already**.  
       ‘I saw the movie.’  
       (b) I **ever** see the movie.  
       ‘I have seen the movie.’

While both *already* and *ever* present the event (‘see the movie’) as completed – they are both perfective – *ever* emphasizes the experience of having completed the event. I will call this use of *already* the *COMPLETIVE*,<sup>4</sup> and of *ever*, the *EXPERIENTIAL*. The translation in (1) is tentative, as we will see shortly. The aspectual meanings of the completive *already* and experiential *ever* only partially correspond to those of the past tense and the perfect of English, respectively. Let us consider *already* first.

We classify predicates into two broad types: statives and non-statives. The latter is a cover term for activity terms, achievement terms, and accomplishment terms (see Vendler 1967; Smith 1991). The aspectual meaning of *already* is sensitive to this distinction. In (1a), we saw one example of a non-stative predicate (*see the movie*). Two more are displayed in (2). The sentences in (3) are stative.

- (2) (a) I wash my hand **already**.  
       ‘I have washed/washed my hand.’  
       (b) Alice fell down in the hole **already**. (Kwan-Terry 1989: 38)  
       ‘Alice has fallen/fell down in the hole.’  
       (3) (a) The tongue red **already**. (Kwan-Terry 1989: 40)  
       ‘The tongue has turned/turned red./\*The tongue was red.’  
       (b) The wall white **already**.  
       ‘The wall has turned/turned white./\*The wall was white.’

[3] Unless otherwise noted, the data cited in this paper come from my own notes of naturally-occurring conversations, and from intuitive judgments of native speakers. The literature on the grammar of Singapore English is extensive and growing. On topics concerning the aspectual system of Singapore English, see Tay 1979; Platt & Weber 1980; Tan 1987; Kwan-Terry 1989; Ho & Platt 1993; Bao 1995 and Ho & Wong 2001.

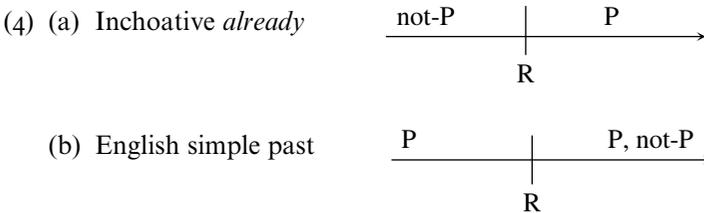
[4] In my discussion of aspectual meanings I follow the theory developed in Smith 1991, which includes case studies of the aspectual systems of English and Mandarin. This does not affect the general conclusion of the paper regarding the origins of the aspectual system of Singapore English.

By ‘completive’ I do not mean that the action must have taken place at the time of utterance. Consider the sentence:

(i) After you wax the car **already**, I pay you.

Here, *already* is used to convey the temporal sequence of the two events: the first event must be completed before the second event can take place.

The sentences in (2) show that *already* may be rendered as the perfect or the simple past in English. But in stative sentences like (3), it expresses a transition to the new state described by the predicate. Following Smith (1991), I will call the use of *already* to mark state transition the INCHOATIVE. Sentence (3a), for example, means that the tongue is now red, and implies that it was not red prior to the time of reference. In English, the inchoative meaning is often expressed lexically (*turned red, reddened*), rather than by means of the simple past or the perfect. We may represent the aspectual difference between the inchoative *already* and the English simple past or perfect in the temporal schema shown in (4) (P = proposition, R = reference time).



Smith (1991) remarks that English stative sentences with the perfective viewpoint, schematically represented in (4b), are ambiguous: the state may have ended at the time of reference R, or may continue. Sentences (5), adapted from Smith (1991: 221), have two readings each.

- (5) (a) Mary lived in New Orleans.
  - (i) She still lives there.
  - (ii) She does not live there any more.
- (b) Bill was angry.
  - (i) He is still angry.
  - (ii) He is not angry any more.

In Singapore English, these sentences, involving *already*, are not ambiguous, each conveying the meaning that the state starts at the time of reference, and continues into the present:

- (6) (a) Mary live in New Orleans **already** ...
  - (i) last time she **never** live there.
  - (ii) \*but she don't live there anymore.
- (b) Bill angry **already** ...
  - (i) last time he **never** angry.
  - (ii) \*but he not angry anymore.

I will comment on *never* in section 1.1.3 below. Given the temporal schema (4a), the sentence in (6a) may be followed by (6a-i), but not by (6a-ii). Likewise, (6b) may be followed by (6b-i), but not by (6b-ii).

Besides the completive and the inchoative, *already* can be used with non-statives, to convey what Smith (1991) calls the INCEPTIVE aspect: the start of an action. In Singapore English, the inceptive may be interpreted to mean either ‘just started’ or ‘about to start’, depending on the context. In English, these meanings are expressed by means of explicit lexical items, such as *start* or *be about to*. The inceptive *already* is exemplified in (7).

- (7) (a) It rain **already**.  
       ‘It has started to rain.’  
       (b) We can eat dinner **already**.  
       ‘We can start to eat dinner now.’

Given the completive meaning of *already*, we would expect (7a) to be ambiguous. Indeed, it is. In (8) it can only be interpreted as completive.

- (8) After it rain **already**, we can go out.  
       ‘After it has rained, we can go out.’

Given the three aspectual meanings, sentences with *already* are potentially three-way ambiguous. The sentence in (9) has precisely the three meanings associated with *already*.<sup>5</sup>

- (9) Miss Lin eat cake **already**.  
       (a) ‘Miss Lin ate/has eaten the cake.’ (completive)  
       (b) ‘Miss Lin has started/is about to eat cake.’ (inceptive)  
       (c) ‘Miss Lin eats cake now (and she did not before).’ (inchoative)

The inchoative reading (9c) is possible only when we interpret the ordinarily non-stative predicate *eat cake* as a stative, i.e. a habit (see Vendler 1967; Smith 1991). Given the temporal schema (4a), (9c) implies that Miss Lin refused to eat cake prior to the time of reference. While the completive or inceptive reading is pragmatically more felicitous for (9), the most likely reading for the sentence in (10) is inchoative.

- (10) Last time John was a housing agent. Now he drive taxi for a living **already**.

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[5] The three readings of (9) are obtained from the intuitive judgments of the native speakers I have consulted. The sentence is adapted from a sentence cited in Kwan-Terry 1989:

(i) I eat the cake already.  
       ‘I ate the cake.’

This sentence is not ambiguous, given the definite NP *the cake*. I leave out the definite article, which is optional in Singapore English, to make the other two aspectual interpretations possible. Singapore English and Chinese are similar in that a bare NP may be given a definite as well as an indefinite interpretation, and in that the aspectual interpretation of a sentence often depends on the definiteness of the object noun phrase (Li & Thompson 1981; Smith 1991).

The completive, inchoative, and inceptive meanings of *already* are not derived from English. English relies on verbal morphology (V-*ed*, *have V-en*) to convey the completive, and on explicit lexical items to express the inchoative and the inceptive. As has been observed in the literature, *already* corresponds to the particle *le* in Chinese, which expresses precisely these three meanings:

- (11) (a) wǒmen chī **le** liúlián  
 we eat LE durian  
 ‘We ate durian.’ (completive)  
 (b) wǒmen chī liúlián **le**  
 we eat durian LE  
 ‘We started/are about to eat durian.’ (inceptive)  
 (c) qiáng bái **le**  
 wall white LE  
 ‘The wall is whitened.’ (inchoative)  
 (d) Zhāngsān kāi ché móu shēng **le**  
 Zhangsan drive car for life LE  
 ‘Zhangsan now drives for a living.’ (inchoative)

Typically, the completive *le* occurs after the verb (V-*le*, cf. (11a)), and the inceptive and inchoative *le* at the end of the sentence (S-*le*, cf. (11b, c, d)). (11d) is given an inchoative interpretation with its intended meaning of driving as an occupation. The following pairs illustrate this:<sup>6</sup>

- (12) (a) xià yǔ **le**  
 down rain LE  
 ‘It started/is about to rain.’  
 (b) xià **le** yǔ  
 down LE rain  
 ‘It rained.’

[6] Since the inchoative *le* and the inceptive *le* are both clause-final, Chinese linguists typically do not differentiate between the two. For Chao (1968) both are inchoative, and for Li & Thompson (1981) both express Currently Relevant State. I use the two terms for descriptive convenience. Indeed, given the right pragmatic context, the clause-final *le* conveys the completive meaning as well. The example in (i) below is cited from Chao (1968: 692). I use *pinyin* to replace Chao’s own romanization system.

(i) jīntiān tiān qín, zuótiān xià yǔ **le**  
 today sky sunny yesterday down rain LE  
 ‘Today, the day is fine; yesterday it rained.’

In this sentence, *xià* ‘down’ is the main verb, and *yǔ* ‘rain’ is its object. Pragmatic considerations override the normal interpretive strategies involving S-*le*. This will make *le* identical to *already* in terms of position and aspectual interpretation.

For this reason, Chinese *le* is not as ambiguous as Singapore English *already*. The Chinese equivalent of (9) need to be rendered in two distinct forms, with the verbal *le* and the sentential *le*:

- (13) (a) Mary dǎ **le** dàn  
 Mary beat LE egg  
 ‘Mary has beaten the eggs.’ (completive)  
 (b) Mary dǎ dàn **le**  
 Mary beat egg LE  
 (i) ‘Mary started/is about to beat eggs.’ (inceptive)  
 (ii) ‘Mary beats eggs.’ (inchoative)

Despite the syntactic difference, V-*le* and S-*le* in Chinese and S *already* in Singapore English, the substrate source of *already* is unmistakable.

### 1.1.2 Ever

We have seen one example of *ever* in (1b), which emphasizes the experience associated with the completed event. More examples follow (from Ho & Wong 2001: 81):

- (14) (a) We **ever** come across a case, half year the new battery conk off already.  
 ‘We have come across a case where the new battery went dead in half a year.’  
 (b) I **ever** met some customer like that.  
 ‘I have met some customer like that.’  
 (c) This share **ever** hit forty dollars.  
 ‘This share was once forty dollars./\*This share has hit forty dollars.’

Although *ever* can often be translated with the English perfect, as in (14a, b), the correspondence is not complete. As (14c) shows, the crucial difference between the experiential *ever* and the English perfect lies in whether or not the ‘experience’ still obtains at the time of reference: (14c) implies that the share price is no longer forty dollars. The English perfect does not convey this implication. The difference is especially obvious in statives:

- (15) (a) John **ever** love Mary.  
 ‘John has loved/loved Mary.’  
 (b) The wall **ever** white.  
 ‘The wall has been/was white.’

Both (15a) and (15b) imply that the states (‘loving Mary’, ‘being white’) have ended. But the English glosses, especially with the perfect, are

ambiguous: the states may have ended or are continuing, depending on context (Smith 1991). Schematically, we can represent this difference as follows:

- (16) (a) Experiential *ever*       $\begin{array}{c} \text{P} \quad | \quad \text{not-P} \\ \hline \text{R} \end{array}$
- (b) English past, perfect       $\begin{array}{c} \text{P} \quad | \quad \text{P, not-P} \\ \hline \text{R} \end{array}$

It is worth noting that with statives the inchoative *already* (cf. (4a) above) and the experiential *ever* (cf. (16a)) are complementary: *already* asserts the existence, and *ever* the end, of a given state at the time of reference, or at the present time. Not surprisingly, adverbials like *before* or *last time* may, and often do, co-occur with *ever* (Ho & Wong 2001: 82):

- (17) (a) **I ever** try this type of fruit **before**.  
           ‘I have tried this type of fruit before.’  
 (b) **I ever** been out with her **before**.  
           ‘I have been out with her before (but not anymore).’  
 (c) **Last time I ever** bought something on sale.  
           ‘I have bought something on sale in the past.’

As an aspectual category, the experiential *ever* is not derived from English, which does not have the experiential in its aspectual system. As has been noted in the literature (Ng 1998; Ho & Wong 2001), it is derived from Chinese *guo*. According to Chao (1968: 251), *guo* marks the indefinite past aspect with the meaning ‘happened at least once in the past’. It is commonly called the EXPERIENTIAL aspect (see Wang 1957; Li & Thompson 1981; Smith 1991; Matthews & Yip 1994), a term which I adopt. The examples in (18) are cited from Li & Thompson 1981.

- (18) (a) wǒ chī **guo** Riběn fàn  
           I eat GUO Japan food  
           ‘I’ve eaten Japanese food (before).’  
 (b) tā ài **guo** Huáng Xiǎojiě  
           he love GUO Huang Miss  
           ‘He once loved Miss Huang.’

As with *ever*, the non-stative (18a) emphasizes the experience of having eaten Japanese food, and the stative (18b) implies that he no longer loves Miss Huang (cf. (15a) and (16a) above).

The good fit between Singapore English and Chinese perfective aspects manifests itself in two other respects. First, as with *ever*, *guo* is felicitous with *yǐqián* ‘before’:<sup>7</sup>

- (19) (a) wǒ yǐqián shì **guo** zhè zhǒng shuǐguǒ  
 I before try GUO this type fruit  
 ‘I have tried this type of fruit before.’  
 (b) tā yǐqián ài **guo** Huáng Xiǎojiě  
 he before love GUO Huang Miss  
 ‘He once loved Miss Huang before.’

Secondly, since it conveys the meaning ‘happened at least once’, the experiential aspect can only be used with events which are repeatable or otherwise follow the natural order of time (Li & Thompson 1981; Smith 1991; Ng 1998). This is true for both *guo* and *ever*:

- (20) (a) ?Chén Xiānshēng sǐ **guo**  
 Chen Mr die GUO  
 ‘Mr Chen has died (\*before).’  
 (a) ?Mr Chen *ever* die  
 (b) ?Chén Xiānshēng lǎo **guo**  
 Chen Mr old GUO  
 ‘Mr Chen was once old (and no longer is).’  
 (b) ?He *EVER* old  
 ‘He was once old (and no longer is).’

Dying is not repeatable, and one experiences being young (*he ever young*) before becoming old, rather than the reverse sequence. Sentences (20) are felicitous only figuratively, or in some sort of fantasy world.

### 1.1.3 Never

We have seen the parallel between Singapore English *already/ever* and Chinese *le/guo*. Given the convergence in aspectual meanings between Singapore English and Chinese, we conclude that *already* and *ever* are English words which have been grammaticalized to express the perfective

[7] Adverbs like *before* are not as felicitous with *already* as they are with *ever*. The native speakers I have consulted have variable acceptability judgments on the following:

- (i) I try this type of fruit **already before**.  
 ‘I tried/have tried this type of fruit before.’  
 (ii) I been out with her **already before**.  
 ‘I was/have been out with her before.’  
 (iii) **Last time** I bought something on sale **already**.  
 ‘I bought/have bought something on sale in the past.’

Most prefer to leave out *before*. This parallels Chinese *le*, which is often used without adverbs like *yǐqián* ‘before.’

aspects derived from Chinese. Two additional pieces of evidence support this conclusion: the negative particle *never* and the emphatic-completive *got*. We consider *never* here, and *got* in section 1.1.4.

Chinese has two negative particles, *bù* and *méi* (or *méi-yǒu*) (see Chao 1968; Li & Thompson 1981). The perfective predicates are negated by *méi* ‘not’ or *méi-yǒu* ‘not have’; all other predicates are negated by the general-purpose negative particle *bù*:

- (21) (a) Zhāng Xiānshēng **bù** qù Niǔ Yuē  
 Zhang Mister not go New York  
 ‘Mr Zhang does not go to New York.’  
 (b) Zhāng Xiānshēng **bù** ài Huáng Xiǎojiě  
 Zhang Mister not love Huang Miss  
 ‘Mr Zhang does not love Miss Huang.’  
 (c) Zhāng Xiānshēng **méi** qù (\*le) Niǔ Yuē  
 ‘Mr Zhang did not go to New York.’  
 (d) Zhāng Xiānshēng **méi** ài (\*le) Huáng Xiǎojiě  
 ‘Mr Zhang did not love Miss Huang.’

*Méi* cannot be used together with the completive marker *le*. In addition, *bù* negates sentences with the inceptive and inchoative *le* (cf. (22a, b) below), and *méi*, together with *guo*, negates sentences with the experiential aspect (cf. (22c, d)).

- (22) (a) Zhāng Xiānshēng **bù** qù Niǔ Yuē **le**  
 ‘Mr Zhang is not going to New York (i.e. planned to go but didn’t).’  
 (b) Zhāng Xiānshēng **bù** ài Huáng Xiǎojiě **le**  
 ‘Mr Zhang does not love Miss Huang (i.e. he used to).’  
 (c) Zhāng Xiānshēng **méi** qù **guo** Niǔ Yuē  
 ‘Mr Zhang has never been to New York.’  
 (d) Zhāng Xiānshēng **méi** ài **guo** Huáng Xiǎojiě  
 ‘Mr Zhang has never loved Miss Huang.’

The additional meanings of (22a, b), as indicated in the English translations, are obviously a function of the aspectual marker. The inchoative S-*le* is responsible for the implication that Mr Zhang had plans to go to New York (in (22a)), and for the implication that Mr Zhang used to love Miss Huang (in (22b)); see schema (4a) above. Similarly, the negation of the experiential *guo* (in (22c, d) means that the event has never happened).

For our purposes, the division of labor between *bù* and *méi* is interesting in that it is transferred in its entirety to Singapore English, to be expressed by *not* (with or without *do*) and *never*. Consider the following minimal pairs:

- (23) (a) John don’t eat durian.  
 ‘John does not eat durians.’  
 (b) John **never** eat durian.  
 ‘John didn’t eat the durian.’

- (c) Why you don't believe me?  
'Why don't you believe me?'
- (d) Why you **never** believe me?  
'Why didn't you believe me?'

As the translations in (23) indicate, *not* conveys neutral negation; *never*, by contrast, negates a perfective form.<sup>8</sup> This use of *never* is also evident in the two extracts in (24).<sup>9</sup>

- (24) (a) The word that means the medicine is very very difficult, because I **never** learn it before, so I think it is very difficult to remember.
- (b) After eating, we go and play on the beach. We want to swim, but we have no swimming suit, so we **never** swim but the sea is very very clean.

The co-occurrence restriction on *bù/méi* and *le* also affects the co-occurrence of *not/never* and *already*. Like *bù*, *not* can co-occur with the inchoative *already* in stative sentences, (25a, b). *Never*, as expected, cannot co-occur with *already*, (25c, d).

- (25) (a) John **don't** eat durian **already**.  
'John does not eat durians anymore.'
- (b) I **don't** want to friend you **already**.  
'I don't want to be friends with you anymore.'
- (c) \*Why you **never** believe me **already**?
- (d) \*Why you **never** wash your hand **already**?

(25c, d) are grammatical without *already*.

Like *méi*, *never* is also used to negate the experiential aspect, without the simultaneous use of *ever*. The sentence *John never eat durian* is ambiguous between the completive reading given in (23b), which requires a definite interpretation of the object NP *durian*, and the experiential reading, under which the sentence means that John has no experience of eating durian (see footnote 5). In the exchange between A and B below, both (i) and

[8] (23b) may also be interpreted as expressing a habit, in which case *never* has its normal, English-derived meaning. Here, the perfective reading of *eat durian* is intended. The perfective negation use of *never* is so pervasive in daily communication that it has caught the attention of grammatical purists. One such purist recently wrote to the local newspaper *The Straits Times* to instruct readers that *I never go to the toilet* should be *I did not go to the toilet*.

[9] The extracts are taken from recordings of a nine-year-old girl who came from China to Singapore to attend primary school. She did not speak English when she came. In one and a half years, she was able to tell stories in English with a strong Singaporean accent. As the fragments suggest, Singapore English is her target.

(ii) are felicitous answers to A's question (adapted from Ho & Wong 2001: 81):

(26) A: Do you go to Change Alley?

B: (i) Oh! Change Alley, **ever**.

(ii) Oh! Change Alley, **never**.

Both answers of B are interpreted experientially: (26i) means that B has been to Change Alley, and (26ii) means that B has never been to Change Alley before.

While *méi* and *guo* co-occur (cf. (22c, d) above), convincing data on the co-occurrence of *never* and *ever* are not easy to elicit. The following example, cited in Ho & Wong (2001: 86), is ambiguous:

(27) **Never ever** beaten! Lowest Installments guaranteed!

*Never ever* occurs in standard English as emphatic negation. So the example may be given an experiential interpretation, or an emphatic one. Just as *already* expresses the meanings of S-*le* and V-*le*, *never* performs the dual function of negating the completive form (*méi* V) and the experiential form (*méi* V *guo*). Context of use will resolve the ambiguity.

#### 1.1.4 Got

In Chinese, the completion of an event may be emphasized with the use of the words *yǒu* 'have' and *wán* 'finish'. *Yǒu* appears before the verb (*yǒu* V), *wán* after (V *wán*). This is especially common in southern dialects such as Hokkien (Bodman 1955) and Cantonese (Matthews & Yip 1994), and Mandarin spoken in Taiwan and Singapore (Chao 1968). Examples are as follows:

- (28) (a) wǒ **yǒu** xǐ (\***le/guo**) shǒu  
 I have wash (\*LE/GUO) hand  
 'I did wash my hand.'
- (b) Chén Xiānshēng **yǒu** xiāngxìn (\***le/guo**) Lín Xiǎojiě  
 Chen Mr have believe (\*LE/GUO) Lin Miss  
 'Mr Chen did once believe Miss Huang (but no longer).'
- (c) wǒ xǐ **wán** (**le**) shǒu cái chī dōngxi  
 I wash-finish (LE) hand only eat things  
 'I only eat after I have washed my hands.'
- (d) \*Chén Xiānshēng xiāngxìn **wán** Lín Xiǎojiě  
 Chen Mr believe-finish Lin Miss  
 'Mr Chen believed Miss Huang.'

Note that *yǒu* can co-occur with *guo*, which is nevertheless optional, but not with *le*. With or without *guo*, *yǒu* emphasizes the completion of the event. The presence of *guo* provides the additional, experiential meaning. As for

*wán* ‘finish’, it is used with non-statives (cf. (28c, d)), and typically co-occurs with *V-le*.

In Singapore English, the Chinese *yǒu* and *wán* have their reflexes in *got* and *finish*, respectively. Their use parallels that of *yǒu* and *wán* closely. The examples below are Singapore English counterparts of the sentences in (28).

- (29) (a) I **got** wash my hand (**already**).  
 (b) Mr Chen **got** believe Miss Lin.  
 (c) I wash **finish** hand (**already**), then I eat.  
 (d) \*Mr Chen believe **finish** Miss Lin.

The use of *already* is optional in sentences with *got* and *finish*, although the native speakers I have consulted prefer to leave it out, especially in statives like (29b). This is to be expected, since *already* with statives conveys inchoativity, which is at odds with the aspectual function of *got*. In non-statives, such as (29b, c), *already* poses no problem. Note that *finish* is not as versatile as *got* (29d), its use being restricted to activity verbs where the lexical meaning of *finish* is felicitous. *Finish* has lost the competition with *already/got* as a marker of the (emphatic) perfective.

### 1.2 The imperfective aspect

The imperfective aspect in Singapore English is unremarkable. It is formally identical to the English progressive, with the optional use of the copula. The following two examples are taken from the Singaporean component of the International Corpus of English, ICE-SIN:<sup>10</sup>

- (30) (a) If they planning to come down, tell me.  
 (b) I’m just typing some you know some work and things like that.

Chinese has two imperfective aspect markers, pre-verbal *zài* and post-verbal *-zhe*. The former, like the English progressive, is dynamic, whereas the latter ‘has a static focus on states’ (Smith 1991: 356). Both are illustrated below.

- (31) (a) tāmen **zài** dǎ qiú (Smith 1991: 357)  
 they ZAI play ball  
 ‘They are playing ball.’  
 (b) tā zài chuáng shàng tǎng **zhe** (Smith 1991: 359)  
 ta at bed on lie ZHE  
 ‘He lies on the bed./He is lying on the bed.’  
 (c) Chén Xiānshēng ài **zhe** Lín Xiǎojiě  
 Chen Mr love ZHE Lin Miss  
 ‘Mr Chen loves Miss Lin./\*Mr Chen is loving Miss Lin.’

[10] ICE-SIN is a small corpus of spoken Singapore English collected by linguists in the Department of English Language and Literature, National University of Singapore.

As these examples show, *zài* is used with non-statives, (31a), and *-zhe* with verbs of posture, such as *tǎng* ‘lie’, (31b), and with statives, (31c). In English, the progressive *V-ing* is used with non-statives and verbs of posture, but not with statives. This is true of Singapore English as well. The following examples are cited from ICE-SIN.

- (32) (a) Actually we’re just waiting for my Ph.D. to be over.  
 (b) You know they standing down there they’ll be very very nervous.

I was not able to collect any data from ICE-SIN which would show statives (*love*, *believe*, *know*) being used in the *V-ing* form. The stative imperfective – expressed by *-zhe* with statives – is not found in Singapore English and its lexifier, English. We consider it in the next section.

### 1.3 *The ‘missing’ aspectual categories*

We have seen the Chinese influence on the aspectual system of Singapore English, especially the perfective aspects. The substrate transfer, however, is not complete. In this section we consider two aspectual categories in Chinese which are not transferred to Singapore English. These are the stative imperfective and the tentative.

#### 1.3.1 *The stative imperfective*

As we noted in section 1.2, Chinese has two imperfective aspects: the dynamic imperfective (*zài* and *-zhe*), which corresponds to the imperfective aspect of Singapore English and English (*V-ing*), and the stative imperfective (*-zhe*), which is unique to Chinese. We have already seen one example, in (31c). Here are two more (Prt = particle):

- (33) (a) Lín Xiǎojiě shāngxīn **zhe** ne  
 Lin Miss sad ZHE PRT  
 ‘Miss Lin is sad.’  
 (b) nà háizi pí **zhe** ne  
 that child naughty ZHE PRT  
 ‘That child is naughty.’

The sentence particle *ne* often co-occurs with the stative imperfective marker *-zhe* to emphasize the on-going character of the state (Chao 1968; Lü 1999). The English translation clearly demonstrates the difference between the two languages in the way statives interact with the imperfective. In English, certain statives may be used in the *V-ing* form, i.e. dynamically (Quirk & Greenbaum 1973: 21):

- (34) He is being naughty again.

According to Quirk & Greenbaum 1973, the dynamic use of statives refers to the ‘transitory conditions’ of the states involved, i.e. being naughty

for a child. This meaning is different from the stative imperfective meaning of *-zhe*.

In the examples we have seen, *-zhe* is attached to the main stative verb. It can also be used with a subordinate verb to provide a background state for the main verb (see Wang 1957; Chao 1968; Li & Thompson 1981; Smith 1991). Consider (35).

- (35) (a) Chén Xiānshēng xǐhuān tǎng **zhe** kàn diànshì  
 Chen Mr like lie ZHE see television  
 ‘Mr Chen likes to watch television lying down.’  
 (b) Lín Xiǎojiě kū **zhe** shuì **le**  
 Lin Miss cry ZHE sleep LE  
 ‘Miss Lin fell asleep crying.’

In both sentences, *V-zhe* provides the background state for the main event, i.e. watching television in (a) and falling asleep in (b). Note that the syntax of this form is complex, involving the serialization of two verbs.

The stative imperfective meaning is not associated with the *V-ing* form in English and Singapore English.

### 1.3.2 *The tentative*

The tentative aspect in Chinese highlights the short duration of an event (see Wang 1957; Chao 1968; Li & Thompson 1981; Smith 1991). It is expressed through verb reduplication, as illustrated below (CL=classifier).<sup>11</sup>

- (36) (a) Lín Xiǎojiě xiǎng qù hǎibiān **zuò-zuò**  
 Lin Miss want go beach sit-sit  
 ‘Miss Lin wants to go to the beach to sit for a while.’  
 (b) zhè-jiàn shì ràng wǒ **zuómo-zuómo** zài huídá nǐ  
 this-CL matter let me ponder-ponder then answer you  
 ‘Let me think over this matter a bit before answering you.’

English does not have this aspect, and relies on lexical items, such as *a while* or *try to*, to express the meaning. Singapore English has a few locally-derived reduplicated words with collective meanings (*barang-barang* ‘miscellaneous things’, *mata-mata* ‘police’), but reduplication is not a productive morphological process (*\*table-table*). A few verbs, including locally-derived ones, are reduplicated to express meanings similar to that of the tentative in

[11] The semantics of the tentative is a bit tricky. Chao (1968: 204f.) links the tentative to the construction of a verb plus a cognate object: *kan-kan* is semantically related to *kan-yi-kan* ‘see-one-see’. The cognate object *yi-kan* consists of *yi* ‘one’ and a copy of the verb, which gives the tentative its short-duration meaning. Smith (1991: 356) considers the tentative as a perfective aspect, which presents ‘a situation as closed, of short duration, and of little importance’.

Chinese (and also Malay). A typical example is the Malay-derived word *jalan* ‘walk’:

- (37) (a) Let’s go there **jalan-jalan**.  
           ‘Let’s go there for a walk.’  
       (b) \*Let’s go there **sit-sit**.  
           \*This proposal, I want to **think-think**.

Verbs which can be readily reduplicated in Chinese, such as *zuò-zuò* ‘sit for a while’ and *xiǎng-xiǎng* ‘think for a while’, cannot be reduplicated in Singapore English (cf. (37b, c)). Examples like *jalan-jalan* or its English equivalent *walk-walk* with the tentative meaning are better treated as fossilized reduplicatives in Singapore English. Despite the fact that reduplication is productive in the substrate languages of Chinese and Malay, spoken by more than 90% of the resident population, reduplication has not evolved into a productive morphological or syntactic device in Singapore English. Consequently, the tentative aspect fails to develop as a robust feature of Singapore English, despite the fact that isolated cases of verbal reduplication that resembles the tentative are attested (Ho 1999; Lim & Wee 2001). I will return to reduplication and the tentative aspect in section 3.

#### 1.4 Summary

For ease of comparison, we summarize the aspectual systems of Chinese, Singapore English and English in (38) (V-*ed* = past tense; V-*en* = perfect; V-*ing* = imperfective;  $\approx$  = approximate).

(38) *The aspectual categories of Chinese, English, and Singapore English*

	Chinese	Singapore English	English
(a) Perfective			
(i) Completive	V- <i>le</i>	S <i>already</i> *V <i>already</i>	V- <i>ed</i> , V- <i>en</i>
(ii) Experiential	V <i>guo</i>	<i>ever</i> V	$\approx$ <i>ever</i> V- <i>en</i>
(iii) Emphatic	<i>yǒu</i> V V- <i>wán</i>	<i>got</i> V V <i>finish</i>	– –
(b) Inchoative	S- <i>le</i>	S <i>already</i>	–
(c) Inceptive	S- <i>le</i>	S <i>already</i>	–
(d) Imperfective			
(i) Dynamic	<i>zài</i> V	V- <i>ing</i>	V- <i>ing</i>
(ii) Stative	V <i>zhe</i> ... ( <i>ne</i> )	$\approx$ V- <i>ing</i>	$\approx$ V- <i>ing</i>
(iii) Stative	V- <i>zhe</i> V	–	–
(e) Tentative	V-V	–	–

I include the approximate case – the stative imperfective (38d-ii) – in the same class as the attested cases. The meanings of the ‘missing’ aspectual categories in Singapore English can be expressed lexically, e.g. V *while* V-*ing*

for the stative imperfective (38d-iii) and *V for a while* or *try to V* for the tentative (38e).

At first glance, the aspectual functions of *already*, *ever*, and other items in Singapore English cited here are not all that ‘novel’ in that they are related to their uses in English. The convergence with English, however, is only apparent. Under relexification theory (see (39) below), the lexical entry created as the exponence of the transferred category must be semantically compatible, at least partially, with the meanings of that category. The superficial similarity is due to a relexification requirement, and does not in itself constitute sufficient evidence in favor of superstratum convergence. As we have demonstrated in the preceding pages, despite the superficial similarities, the aspectual meanings of *already*, *ever*, and so on in Singapore English cannot be derived from the situations of use with which these lexical items are typically associated in English. The aspectual system of Singapore English is fundamentally different from that of English. However, it is not an exact replica of the Chinese system, despite the unmistakable Chinese influence. Moreover, it differs from the tense–mood–aspect system that Bickerton (1980, 1981) identifies as prototypical for pidgin and creole languages, a notion that has proved to be problematic (see Singler 1990; Mufwene 2000; Winford 2000; and references cited therein). Although the system is not point-by-point identical with the substrate system, it is nevertheless not an ad hoc mixture of the aspectual categories of English and Chinese. (38) needs a principled explanation.

Singapore English originated and has developed in a contact ecology in which people have unrestricted access to Chinese and English, the two major competing languages that have shaped the grammar of Singapore English since its early days.<sup>12</sup> Access to grammatical resources is crucial in determining the intensity and outcome of contact. It is therefore natural to expect that if one substrate grammatical feature is transferred, other features of the same type – the cluster – will be transferred as well, provided that they find ready English lexical or morphological devices to serve as morpho-syntactic exponence. The attested and unattested aspectual categories of

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[12] The contact ecology of Singapore English is analogous to the endogenous ecology presented in Chaudenson (1977, 2001). According to Chaudenson, endogenous pidgins and creoles develop ‘from contact between an indigenous population and an immigrant group,’ whereas exogenous pidgins and creoles develop ‘out of contacts among immigrants and the transplanted populations’ (Chaudenson 2001: 22f.). One crucial property of this distinction is the presence (endogenous) vs. the absence (exogenous) of a common substrate language or languages. Endogeneity in contact language entails the presence of a homogeneous linguistic substratum, which features prominently in contact linguistic theorizing (Singler 1988). Although Singapore as a former British Crown colony has populations transplanted from elsewhere, the majority of the early settlers and immigrants came from southern China, creating a linguistically homogeneous substratum in the reconstituted community (see also footnote 2). From the point of view of language contact, the Singapore English ecology is an endogenous ecology. I do not, however, adopt Chaudenson’s superstratist approach.



as their Fongbe counterparts (Haitian *plim* ‘feather, hair’, French *plume* ‘feather’, Fongbe *fún* ‘feather, hair’). Similar major-category relexifications can be found in Singapore English. Consider *want* in (40a).

- (40) (a) (Child to Father) I want to carry.  
           ‘I want (you) to carry (me).’  
       (b) wǒ yào bào  
           I want carry  
           ‘I want (you) to carry (me).’

In English, the subject of the infinitival phrase in *want to VP* is the matrix subject, regardless of context. In Singapore English and Chinese, the infinitival subject is not tied to the matrix subject. Rather its exact reference determined pragmatically (Xu 1986). In the Singapore English utterance (40a) and the Chinese utterance (40b), the subject of *to carry* is not the matrix subject. If the utterances were made father-to-child, they would have entirely different meanings. In the relexification account, Singapore English *want* has the semantic and syntactic features of Chinese *yào*, relabelled with the phonetic string of English *want*.

Exactly the same relexification effect can be seen in Singapore English *got*, which relexifies Chinese *yǒu* ‘have’, as we saw in section 1.1.4. Now, apart from expressing the basic lexical meaning of possession, Chinese *yǒu* has two other major functions, especially in the southern dialects of Cantonese and Minnan (Hokkien and Teochew; see footnote 2). The perfective use is one such function; the other is to assert existence (Bodman 1955; Chao 1968; Li & Thompson 1981; Matthews & Yip 1994). The two functions are differentiated in structure: *yǒu V* marks the perfective, *yǒu N* the existential. We may recognize two subtypes of the existential use of *yǒu*: existence, especially when location is expressed (Locative *yǒu*), and existential quantification (Existential *yǒu*). These are exemplified below.

- (41) (a) *Locative yǒu*  
           qiáng-shàng yǒu yī-fu huà  
           wall-on have one-CL picture  
           ‘On the wall there is a picture.’  
       (b) *Existential yǒu*  
           yǒu liǎng-men kè wǒ xiǎng xuǎn  
           have two-CL course I want take  
           ‘There are two courses I want to take.’

Not surprisingly, Singapore English *got* exhibits the same usage patterns:

- (42) *Locative got*  
       (a) Inside **got** a lot of fruits. (ICE-SIN)  
           ‘Inside, there are a lot of fruits.’  
       (b) Beach **got** a lot of those Ang Mo Lang. (ICE-SIN)  
           ‘On the beach there are a lot of those Europeans.’

*Existential got*

- (c) **Got** at least one time everyone happy.  
 ‘There was at least once that everyone was happy.’
- (d) **Got** a few times I finish first.  
 ‘A few times, I finished first.’

In these two structures, *got* does not have the past tense meaning, and cannot be replaced with *get*. The past tense readings of (42c, d) are not due to *got*, but to the context in which they are uttered.

By contrast, English *got* (and *get*) has the lexical meaning of possession (*I've got two tickets to the movie*), which qualifies it to relexify Chinese *yǒu*. However, it does not have the existential meanings exemplified in the two constructions shown in (42). These *got* structures are infelicitous in English. Like *want* (<*yào*), Singapore English *got* obtains its novel grammatical meanings from Chinese *yǒu*. The polysemy of *got* supports relexification as the basic generative mechanism of substrate transfer.

As it turns out, the existential quantifier *got* is not the only one in this category; the substrate universal quantifier *dōu* ‘all, also’ is also transferred to Singapore English, to be relexified with the English word *also*.<sup>13</sup> Relevant data follow:

- (43) (a) Every day **also** have to go through this. (ICE-SIN)  
 ‘(We) have to go through this every day.’
- (b) Everything **also** I want.  
 ‘I want everything.’

(43a) is extracted from a conversation between two graduating students about the tedium of job interviews, and (43b) is the title of a local comic book. In English, *also* is used as an additive adverb (Huddleston & Pullum 2002). While it has the additive meaning in Singapore English, in these sentences it is used with *every day/everything* to reinforce universal quantification. This usage has its source in Chinese *dōu* ‘all, also’:

- (44) (a) tā méi tiān **dōu** hē chá  
 he every day all drink tea  
 ‘He drinks tea everyday.’
- (b) wǒ méi yàng dōngxi **dōu** yào  
 I every kind thing all want  
 ‘I want everything.’

A full treatment of the quantification system of Singapore English is beyond the scope of this paper. Suffice it to say that the parallel between Singapore

[13] In Cantonese, and to a limited extent in Singapore Mandarin, *dōu* has both the universal quantifier and additive functions (Matthews & Yip 1994). The additive function makes it possible for *also* to relexify *dōu*. In Beijing Mandarin, the two functions are expressed separately: *dōu* for universal quantification, and *yě* for the additive meaning.

English *got/also* and Chinese *yǒu/dōu* provides strong evidence that the substrate existential and universal quantifiers are transferred together as a grammatical subsystem.

Relexification, as conceptualized in (39), targets individual lexical items. While it offers a ready explanation for the innovative functions of *want*, *got*, *also*, etc. as individual elements, it is nevertheless silent on systemic substrate transfer. One serious criticism of substratist theory is that it lacks systematicity (Bickerton 1981). To avoid such criticism, which I believe is justified, we need to see these innovations not as resulting from ad hoc mixing of features available in the contact ecology, but as resulting from systemic restructuring that has taken place under pressure of language contact. Surface innovation is but a reflection of underlying change in the grammatical subsystem. This is especially true in a contact ecology in which all contributing languages are active participants throughout the history of the contact language. In such a scenario, the elements of a given grammatical system are equally accessible for transfer by the creator-developer of the contact language. A hypothetical language with only *le* (>*already*) and *yǒu* (>*got*), but not the others, relexified is less optimal than Singapore English with the aspectual system displayed in (38). The clustering effect one sees in the grammatical neologisms of Singapore English is not accidental, and an adequate substratist theory needs to provide an explanation for the phenomenon. In the following section I propose to incorporate two constraints in a relexification-based analysis which does just that.

### 3. SYSTEM TRANSFER AND LEXIFIER FILTER

Historically, the sociolinguistic ecology of Singapore English has exhibited little change. Since the mid-nineteenth century, the demographic composition of Singapore has been surprisingly stable, with about three quarters of the resident population speaking various southern dialects of Chinese (Turnbull 1977). English has always been the prestigious language that is politically, socially, and economically dominant. The continued presence of the sub- and superstrata provides a constant linguistic matrix for the genesis and development of novel grammatical features in the contact language. Since the creators and the developers of Singapore English have enjoyed ready access to the same grammatical resources, Chinese and English influence on the grammar of Singapore English will not only be substantial, but full of tension – after all, the competing Chinese and English aspectual systems are incongruent in interpretation and in morphosyntax. As we have seen in section 1, the Singapore English system exhibits split loyalty – it is congruent with the Chinese system in interpretation, and with English in the morphosyntax of its exponence. It is this substratum–superstratum tension that produces (38). I propose to account for the emergence of (38) in the following way. The entire aspectual system is transferred from the substrate

language to the emerging language, and the transferred system is relexified, subject to the grammatical constraints of the lexical-source language. In other words, English acts as a filter which strains out those parts of the Chinese system that cannot be relexified in accordance with English grammar. I propose to encapsulate the distinct yet interdependent roles of the substrate and lexical-source languages in the constraints stated in (45).

(45) (a) SYSTEM TRANSFER

Substratum transfer involves an entire grammatical subsystem.

(b) LEXIFIER FILTER

Morphosyntactic exponence of the transferred system conforms to the (surface) structural requirements of the lexical-source language.

For lack of better terms I call these SYSTEM TRANSFER and LEXIFIER FILTER, respectively. Like constraints in Optimality Theory (cf. Prince & Smolensky 1993), these are violable, and ranked. As we will see shortly, the LEXIFIER FILTER ranks above the SYSTEM TRANSFER – the relexification of the transferred grammatical system, in our case the aspectual system, must meet the grammatical requirements of the lexical-source language.

SYSTEM TRANSFER captures the clustering effect of substrate influence by stipulating that substrate transfer must involve an entire grammatical subsystem. It is a constraint on relexification, which is the basic generative mechanism of substrate transfer. In generative linguistics, the properties of a given grammatical subsystem are determined parametrically, and behave as a cluster both in historical change (Lightfoot 1991) and, as we argue here, in substrate influence that shapes the grammar of a contact language. In the recent literature on creole genesis, there have been a few studies which take the parametric approach to the analysis of novel grammatical phenomena (see, among others, Mufwene 1991; Deprez 1992; DeGraff 1996; Lefebvre 1998; Bao 2001; and contributions in DeGraff 1999). These works study contact phenomena associated with well-known parameters, especially the pro-drop parameter. Here, I assume that the aspectual system of a language is parametrically specified, and will focus on the effect of parametric re-settings. As Lefebvre (1998: 349) puts it, ‘the creators of the creole use the parametric values of their own grammar in assigning a value to the parameters of the language that they are creating’. SYSTEM TRANSFER is the logical consequence of parametric restructuring in the emerging language. To satisfy the constraint, the set of parametric values that define the targeted grammatical subsystem must be transferred from the substratum to the new language, making it typologically closer to the substrate language than to the lexifier. A substratist theory which incorporates SYSTEM TRANSFER rules out ad hoc mixing of grammatical fragments from typologically diverse languages and thus avoids the Cafeteria-Principle-based critique (Dillard 1970; Bickerton 1981).

As we have seen, although the attested categories match their counterparts in Chinese, the Singapore English aspectual system is not point-by-point identical with the Chinese system, in violation of SYSTEM TRANSFER. We need to explain the partial convergence between Singapore English and its substratum. The explanation lies in the interaction between SYSTEM TRANSFER and LEXIFIER FILTER, the latter of which stipulates that the exponence of the transferred grammatical system conform to the morphosyntax of the lexical-source language. Like SYSTEM TRANSFER, the content of LEXIFIER FILTER is not new. It is consistent with the common observation that lexical-source languages tend to determine the word order of contact languages (Mühlhäusler 1986; Mufwene 1990; Lefebvre & Lumsden 1992; Lefebvre 1998). Since the lexical-source language contributes morphosyntactic exponence, its (surface) grammatical properties naturally carry over to the new language, where the lexical items acquire additional functionality as the exponence of substrate-derived grammatical features. In the case of Singapore English, the lexical items (e.g. *already*, *ever*, *got*, etc.) retain their major-category syntactic positions in their newly-acquired functions. The treatment of the missing categories, however, is not as straightforward. Lefebvre (2001a) claims that a copied functional-category lexical entry is assigned a phonologically null string if there is no suitable phonetic string in the superstratum language. Here we depart from Lefebvre's claim. Missing functional categories are indeed missing, having been filtered out of the transferred system.

If SYSTEM TRANSFER is a constraint on relexification, LEXIFIER FILTER can be seen as a constraint on reanalysis – major-category lexical items or morphological devices such as reduplication retain their morphosyntactic properties as they acquire new minor-category meanings. Restricting our attention to the rivalry between the lexifier and the substrate, we have four logically possible scenarios in terms of conformity to the grammars of the competing languages: the morphosyntactic exponence of a transferred grammatical category conforms to the lexifier, to the substrate, or to both the lexifier and the substrate, or it conforms to neither the lexifier nor the substrate. These possibilities are shown in (46).

(46) *Transfer and morphosyntactic compliance*

	Lexifier-compliant	Substrate-compliant	Example
(a)	yes	yes	<i>got</i>
(b)	yes	no	<i>ever</i>
(c)	no	yes	not transferred
(d)	no	no	non-existent

(46d) requires little comment. Under our analysis, this state of affairs is not possible since a given relexifying string must carry over its morphosyntactic properties from the lexical-source language, and must therefore minimally meet the grammatical requirement of the lexifier. Of course, it is possible that

a transferred feature is lexified by a string that subsequently develops unique morphosyntactic properties, independently of either the lexifier or the substrate languages. Such a scenario is unlikely in a contact ecology in which all contributing languages are easily and equally accessible. (46c) describes the scenario whereby a component feature of the transferred subsystem cannot be expressed by any morphosyntactic form from the lexical-source language. The missing aspectual categories of Singapore English belong here. I will return to these shortly.

In (46a), a given feature is expressed by a lexical item whose morphosyntactic properties in the lexical-source language are coextensive, or overlap, with those of its counterpart in the substrate language. This is the case for English *got* and Chinese *yǒu* 'have': since both are pre-verbal, the emphatic *got* is pre-verbal in Singapore English (cf. (38a-iii)). Structurally, English *get V-en* and *get to V* are not the same construction as Chinese *yǒu V*, and do not have the same meaning. But in terms of word order, *get/got* appears before V, which is sufficient for it to be considered congruent with *yǒu*. This apparent misanalysis is not uncommon in congruence studies in creole genesis (see Weinreich 1964; Siegel 1999), and in second-language acquisition (Andersen 1983).

Singapore English *already* can be accounted for in similar ways. English *already* is either pre-verbal or clause-final, and Chinese *le* is post-verbal (completive) or clause-final (inceptive, inchoative), with their distinctive aspectual meanings. By appearing clause-final in Singapore English, *already* conforms to both the lexifier and substrate morphosyntax, at the cost of added ambiguity in aspectual meanings (cf. (38a-i, b, c)). In (46b), where the lexifier and the substrate are in conflict, the lexifier prevails over the substrate. We can see this in the syntax of Singapore English *ever*, which is pre-verbal, exactly like its English counterpart. The Chinese source *guo* is nevertheless post-verbal (cf. (38a-ii)). Similarly, in Singapore English the dynamic imperfective *-ing* directly follows English *-ing*, despite the fact that Chinese imperfective marker *zài* is pre-verbal (cf. (38d-i)).

As a constraint, LEXIFIER FILTER is weaker than congruence (Weinreich 1964; Andersen 1983; Siegel 1999). It does not require that the superstrate string which relexifies a transferred feature be congruent with the feature's structural pattern in the substrate language. Congruence, by contrast, allows only (46a). Siegel (1999) compares substrate features which are attested in Melanesian Pidgin with those which are not, and argues that structural congruence between the substrate and superstrate languages facilitates transfer of substrate features to Melanesian Pidgin. Analogous to the congruence principle in second language acquisition studies is the transfer to somewhere principle of Andersen 1983, according to which the grammatical features of the learner's first language are more likely to be found in interlanguage if they can be analyzed, often mistakenly, as equivalent to some structures in the target language. Both the congruence principle and the

transfer to somewhere principle are stronger than the LEXIFIER FILTER, which allows both (46a) and (46b). Failure to transfer is due to the lack of suitable morphosyntactic forms from the lexifier language, rather than to the absence of substratum–superstratum convergence.

We now return to (46c) and (38d-ii, d-iii, e). The categories missing from the aspectual system of Singapore English can be accounted for in the same way as their attested counterparts – in terms of the interaction between SYSTEM TRANSFER, which demands faithful reproduction of the substrate system, and LEXIFIER FILTER, which demands full compliance with the lexical-source grammar. The two constraints are antagonistic, pulling the emerging language in opposite directions. By ranking LEXIFIER FILTER above SYSTEM TRANSFER, we can account for the missing categories – they are missing precisely because the lexical-source language lacks adequate morpho-syntactic means to express them. The lexical-source grammar acts like a filter, straining out unexpressible features of the transferred subsystem. The higher-ranked LEXIFIER FILTER prevails at the expense of SYSTEM TRANSFER.

The relexification schema (39) allows two sources of morphosyntactic exponence for the transferred grammatical subsystem – lexical and morphological, such as reduplication. From the perspective of lexical compliance with LEXIFIER FILTER, the English-derived lexical properties of *already* determine its position as the completive marker in Singapore English. The completive cannot be expressed by V *already*, which is, incidentally, congruent with the substrate V *le* (cf. (38a-i)). As for the missing stative imperfective \*V-*ing* V (cf. (38d-iii)), the lack of the relevant grammatical construction in English provides a ready explanation:

- (47) (a) \*Please **sitting** talk.  
 (b) tāmen **zuò zhe** shuōhuà  
 they sit ZHE talk  
 ‘They sat and talked./They talked while seated.’  
 (c) tāmen **tiào zhe** shuōhuà  
 they dance ZHE talk  
 ‘They talked while dancing.’

Note that the stative imperfective V-*zhe* in (47) provides the background for the event expressed by the main verb. In English only verbs of posture may appear in formulaic coordinative conjunction (V *and* V) to express the backgrounding meaning of the Chinese stative imperfective (Huddleston & Pullum 2002: 1303). Compare the two sentences in (40).

- (48) (a) They sat and talked about the wedding.  
 (cf. They sat talking about the wedding.)  
 (b) They danced and talked about the wedding.  
 (cf. ??They danced talking about the wedding.)

The sitting, but not the dancing, is backgrounded in their respective sentences. In Chinese, the stative imperfective V-*zhe* is not restricted to verbs of posture; see (47c).

The tentative aspect is expressed through verbal reduplication in Chinese (cf. (38e) above). We can account for its absence in Singapore English by appealing to English, which does not count reduplication among productive morphological devices. The matter is a bit more complicated, and interesting from the perspective of LEXIFIER FILTER. English has a set of reduplicative compounds, which tend to be informal and restricted in their use. These include *teeny-weeny* (intensity) and *mumsie-wumsie* (affection) (Greenbaum 1996: 461f.). Despite the existence of reduplicative compounds, reduplication as a morphological process is nevertheless unproductive (*\*beautiful-beautiful*, *\*happy-happy*). Likewise, Singapore English has reduplicatives, but reduplication remains informal and unproductive. The common reduplicative examples enumerated in Ho (1999) and Lim & Wee (2001) fall into the following three types:<sup>14</sup>

(49) *Reduplication in Singapore English*

- (a) Affection: *boy-boy* ‘boyfriend/son’  
 (b) Intensity: *sweet-sweet* ‘very sweet’  
 (c) Attenuation: *cry-cry* ‘cry a little’

The labels are due to Lim & Wee (2001). Attenuation is equivalent to the tentative aspect. Affection and intensity are associated with reduplication in English, the substrate languages of Chinese and Malay, and Singapore English. This state of affairs is consistent with LEXIFIER FILTER. The attenuation (i.e. tentative) meaning of (49c) is unexpected, since it is only associated with Chinese reduplication, but not with English reduplication. However, unlike its counterpart in Chinese, the putative tentative reduplication in Singapore English is restricted and highly context-dependent, as shown by the contrasts in (50).

- (50) (a) tāmen qù hǎitān **kàn-kàn** yuèliàng  
 they go beach see-see moon  
 ‘They went to the beach to look at the moon.’  
 (b) \*They go to the beach to **watch-watch** the moon.  
 (c) ràng wǒ **kàn-kàn** (nèi-ben shū)  
 let I read-read (that book)  
 ‘Let me take a look (at that book).’  
 (d) \*Let me **read-read** (that book).

[14] The classificatory labels are taken from Lim & Wee (2001), which also includes examples like *walk-walk-walk* and *stop-stop-stop*. The triple reduplication, which indicates continuity, can be treated as coordinator-marked reduplication (Huddleston & Pullum 2002), without the coordinator *and*. Under this treatment, *I walk-walk-walk* is rendered in English as *I walked and walked and walked*. Many examples in Ho (1999) and Lim & Wee (2001) can be analyzed in the same way.

Moreover, among the native speakers I have consulted, grammaticality judgments vary considerably – speakers who accept *Let's go walk-walk* would nevertheless reject (50b, d) and similar sentences containing reduplicative verbs. On account of these observations, we conclude that the tentative reduplication has yet to develop in Singapore English, and the few examples (*walk-walk*, *cry-cry*) – which are ‘leaks’ of LEXIFIER FILTER – are better treated as formulae.

The lack of productivity of the putative tentative aspect in Singapore English contrasts sharply with the productive use of the attested categories, such as the completive *already* and the experiential *ever*. As far as reduplication is concerned, the effect of LEXIFIER FILTER is reflected not only in the lack of productivity in the case of a few attested instances, but also in the missing cases of reduplication that are productive in the substratum. One such case concerns nominal reduplication, which expresses universal quantification in Chinese. Examples include *jiā/jiā-jīā* ‘family/every family’ and *zì/zì-zì* ‘character/every character’ (Wang 1957).<sup>15</sup> Nominal reduplication of this type is not found in Singapore English at all. I summarize the patterns of reduplication in Chinese, English, and Singapore English below.

(51) *A comparison of reduplication patterns*

	Chinese	English	Singapore English
(a) noun, affection	yes	yes	yes
(b) adjective, intensification	yes	yes	yes
(c) verb, tentative	yes	no	no
(d) noun, quantification	yes	no	no

The state of affairs summarized in (51) is quite revealing. The substratum reduplication is subject to the normative circumscription by the properties of the superstratum reduplication. The substrate-derived tentative aspect has yet to become part of the aspectual system of Singapore English, despite the occasional examples that appear to have the right meaning. LEXIFIER FILTER prevents reduplication from being the morphosyntactic exponence of the tentative aspect.

Exactly the same fate befalls *V-finish* (38a-iii), which is not productive compared with *already* and *got*. In Chinese, *V-wán* (*V-finish*) is a resultative verb compound, where the second V describes the result of the action expressed by the first V (Chao 1968; Thompson 1973). Two examples illustrate:

[15] Malay nominal reduplication appears to have similar meanings. Mintz (1994: 259) writes, ‘The true function of noun reduplication is to show individuality within a group’. *Pulau-pulau*, derived from *pulau* ‘island, islands’, refers to each and every island of a collection of islands. This will reinforce the substrate effect on reduplication in Singapore English. Its absence is all the more surprising.

- (52) (a) tā dǎ-pò le bólí  
 he hit-break LE glass  
 ‘He broke the glass.’  
 (Lit. ‘He hit the glass and the glass broke.’)
- (b) wǒ xiā-pǎo le tāmen  
 I frighten-run LE they  
 ‘I frightened them away.’  
 (Lit. ‘I frightened them and they ran away.’)

While V–V compounds are productive in Chinese, they do not occur in English and Singapore English (\**He hit-break the door*, \**I frighten-run them*). Like the occasional tentative reduplicatives such as *jalan-jalan* ‘walk-walk’, V-*finish* is best treated as a fossilized form with limited and context-dependent usage.

#### 4. CONCLUDING REMARKS

In the preceding sections we have presented an analysis of the aspectual categories of Singapore English which spells out in precise terms the contribution of the linguistic substratum and superstratum: the substratum contributes the categories *qua* system, and their morphosyntactic exponence is governed by the superstratum. While sociolinguistic conditions help determine the outcome of language contact (Thomason & Kaufman 1988; Mufwene 2001), even intense competition between or among typologically distinct languages respects the structuredness of language. The Chinese-derived aspectual system of Singapore English and its quantification system shed light on the systemic nature of substrate transfer in a contact ecology where the same linguistic resources persist from early days onwards and are readily accessible to the creators and developers alike. Both Chinese and English contribute their aspectual categories to what Mufwene (2001) calls the feature pool, from which Singapore English draws features as its grammar restructures. The evidence we have adduced shows that the feature pool is not unstructured. The competing features cluster, and substrate influence respects parametric settings.

Three salient properties of substrate transfer are worth emphasizing. First, the aspectual system of Singapore English is not formed through random selection of English and Chinese aspectual categories from the same feature pool. The parametrically related grammatical features – features which form a grammatical subsystem – transfer together. In our analysis, the clustering effect is encapsulated in the constraint SYSTEM TRANSFER, which we take to be a constraint on relexification, the main generative mechanism of substrate transfer in relexification theory.

Secondly, the Chinese-derived system and the English system do not mix, and serve as separate and co-existent systems in diglossic

interdependence: the former in the vernacular variety (the variety we have been analysing under the label ‘Singapore English’) and the latter in the standard, formal variety (Gupta 1994; Bao 2003). Vernacular Singapore English emerges through intense contact between Chinese and English. The aspectual system resists outside interference, even as the grammar of the language is being reconstituted. Like the clustering effect, the non-mixture of the competing systems can be accounted for in terms of SYSTEM TRANSFER: the intrusion of even one foreign aspectual category constitutes a violation, rendering the system less optimal than one that keeps foreign intruders at bay.

Thirdly, by contributing relexifying forms, the lexical-source language also contributes to the grammar of the new contact language. LEXIFIER FILTER spells out the superstratum contribution: the exponence of the substrate system – major-category lexical entries and reduplicatives – retains its superstratum-derived morphosyntactic properties in their new roles as aspectual markers. The superstratum determines the ‘fate’ of the component members of a transferred substrate system. The emerging contact language is never a direct grammatical replica of the substrate language, even in an ecology with an active and homogeneous linguistic substratum.

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