# Social stigma and grammatical autonomy in nonnative varieties of English

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ABSTRACT

The spread of English has created a rich array of varieties, which are often grouped into a tripartite division: the ENL, ESL, and EFL of Quirk, or the inner-circle, outer-circle, and expanding-circle of Kachru. These varieties, especially ESL, differ among themselves in both form and function. It is often assumed in the literature that these varieties are autonomous systems of communication. This article challenges this assumption by showing that the innovative phonological features of one ESL variety, the vernacular English spoken in Singapore, cannot be analyzed without reference to native English. These change-in-progress features fall into two types: those that originate in phonemes, and those that originate in words. Social stigma associated with them poses a formidable barrier to their stabilization and diffusion, and consequently to their autonomization. Nonnative English is grammatically dependent on native English. (Sound change, Neogrammarian regularity, lexical diffusion, social stigma, Singapore English, pidgins and creoles, language contact.)*

INTRODUCTION: THE ISSUE

In this article I address the issue of grammatical autonomy in stigmatized, nonnative varieties of English. These varieties are typically spoken in former British colonies, such as India and Singapore, where there has never been a sizable English settlement. Quirk 1985 classifies them as countries where English is a second language, to be distinguished from countries such as England and America, where English is spoken as a native language, and from countries such as China and Japan, where English is a foreign language. Details aside, Quirk's tripartite taxonomy of ENL, ESL, and EFL parallels the inner, outer, and expanding circles of English proposed by Kachru 1985. One crucial difference between ENL and ESL varieties is the extent to which they come into contact with other languages. In ESL countries, where English is spoken along with one or more local languages, the influence of these languages on English is inevitable. ESL varieties therefore exhibit strong contact-induced linguistic change. For this reason, Muf-

wene 1994 groups ESL varieties – variably called New Englishes, institutionalized Englishes, indigenized Englishes, or nativized Englishes – together with English-based pidgins and creoles. Following Kachru 1981, 1983, I will use the term NONNATIVE ENGLISH to refer to these two types. The varieties of English spoken in ENL or inner-circle countries will be referred to collectively as NATIVE ENGLISH.[1]

Given its unique linguistic and sociolinguistic conditions, both current and historical, nonnative English offers us an interesting array of empirical data for the study of linguistic change under intense language contact. The central theoretical issue concerns the extent to which one can claim that the evolving grammar of a nonnative variety of English is an autonomous system in its own right, analyzable independently of native English, and the extent to which the low prestige of the nonnative variety affects the stabilization of its innovative grammatical features, which has serious theoretical and empirical consequences for the autonomy of its grammar. In the modern literature of linguistics, grammatical autonomy of nonnative varieties is often taken for granted.[2] This derives from the more general assumption that all languages or language varieties are autonomous systems of communication. It amounts to the claim that the grammar of a nonnative variety is just as stable as that of a native variety, and can be analyzed with the same methodological and theoretical considerations as any independent grammatical system. I shall call this the AUTONOMY CLAIM. Since there is no a priori reason why innovative grammatical features of nonnative English should be analyzable on system-internal evidence alone, without reference to native English, the claim of grammatical autonomy needs to be justified on empirical grounds. The present study approaches these issues within the research paradigm that places language in its sociolinguistic context (cf. Sturtevant 1947; Weinreich, Labov, & Herzog 1968; Labov 1972a, 1994). Careful analysis of the innovative phonological features of one nonnative variety, the vernacular English spoken in modern Singapore, demonstrates clearly that the stigma associated with phonological innovations slows their stabilization and creates serious analytical dilemmas that cannot be resolved without reference to the grammar of native English. Social stigma presents a serious challenge to the autonomy claim.

From a structural perspective, an autonomous language or variety minimally must meet two conditions. First, a linguistic rule in a given grammatical subsystem of the language exhibits optimal generality, in the sense that it applies to all forms that meet the structural description. Exceptions need principled explanation within an appropriate theoretical framework (but see Mufwene 1992). Second, synchronic structural analysis is justified, or justifiable, solely on the basis of language-internal evidence; materials from other languages, however closely they are related genetically, are excluded as irrelevant. These conditions are not controversial in modern structural linguistics, and they may serve as a litmus test for the grammatical autonomy of one nonnative variety of English from another, or of nonnative from native English. The multilingual ecology of these varieties

provides the right linguistic environment for the emergence of contact-induced grammatical features; and it is these features that define the boundary of each nonnative variety. If the variety lacks social and political prestige in its own community, these features are likely to be stigmatized. Given the light functional load of nonnative varieties, it is doubtful that all novel grammatical features will be able to stabilize to the extent that their grammars become as robust as the grammar of native English.

The rest of this essay is organized as follows. In the next section, I discuss the prevailing diglossic view of the English language in Singapore. In the third section, I introduce two robust phonological features in Singapore English: obstruent devoicing, and plosive deletion and glottalization. These features are also attested in the data to be discussed in subsequent sections; they are not problematic for the autonomy claim. In the fourth section, I discuss five novel phonological features and show that they complicate the grammar of the language and render the autonomy claim untenable. In the fifth section, I argue that the analytical problem can be resolved by treating Singapore English as coexistent systems that are interdependent. In the sixth section, I show that the phonological features fall into two types: those that originate in phonemic restructuring and exhibit Neogrammarian regularity, and those that originate in individual words and exhibit lexical diffusion. Social stigma plays crucial, albeit different, roles in the stabilization of the two types of sound change. The last section is the conclusion.

SINGAPORE ENGLISH AS DIGLOSSIA

The situation of the English language in Singapore, a former British colony, has been the subject of numerous studies since the 1970s.[3] The LECTAL CONTINUUM view of the internal variation of Singapore English, advocated most notably in the early works of John Platt and his associates (cf. Platt 1975, Platt & Weber 1980), has in recent times given way to the DIGLOSSIC view, recognizing two distinct and independent varieties: standard, formal English as the H variety, and the vernacular, informal English as the L variety. Gupta 1991, 1994a,b labels the H variety "Singapore Standard English" (henceforth SSE) and the L variety "Singapore Colloquial English" (SCE). Grammatically, SSE is not different from standard English elsewhere, such as standard British or American English, with differences being confined to accent and a few lexical borrowings. SCE, by contrast, exhibits sharp grammatical differences. The vernacular variety has been described in a number of ways in the literature: as a creoloid, occupying the basilectal end of the lectal continuum (Platt 1975); as an extended pidgin (Arends et al. 1994); and as an endogenous creole, in the sense of Chaudenson 1977, which originates and develops in a constant linguistic ecology (Bao 2001). There is a wide grammatical chasm between SCE and SSE. The former variety, with its localized grammatical innovations, is endonormative, and the latter variety, exonormative (cf. Alsagoff & Ho 1998).

TABLE 1. *Primary home languages
of Singapore residents, age five and older,
in the 2000 Census.*

|                  | 1990  | 2000 |
| ---------------- | ----- | ---- |
| Mandarin         | 23.7% | 35%  |
| Chinese dialects | 39.6  | 23.8 |
| English          | 18.8  | 23   |
| Malay            | 14.3  | 14.1 |
| Tamil            | 2.9   | 3.2  |
| Others           | 0.8   | 0.9  |

The mode of acquisition of the two varieties follows the classic line of diglossia (cf. Ferguson 1959): SSE is learned in school, whereas SCE is acquired at home as a native language. Gupta writes:

> SCE is the main kind of English used in the home and in casual situations. It is the normal variety to be used to small children, outside a pedagogical situation. Nearly all those children who have learnt English from birth will have SCE, rather than SSE, as their native language. (1994a:7)

In Gupta's usage, SSE is a variety of native English in the historical sense of the term "native" (see n. 1). In the acquisitional sense, however, SCE is a native language for a sizable segment of the population. The exact number of native speakers of SCE is not easy to determine. The Literacy and Language section of the Singapore Census of Population 2000 contains data on the language most frequently spoken at home among the resident population aged five and over between 1990 and 2000 (see Table 1).[4] If we are to interpret the notion "language spoken at home" liberally to mean native language (or mother tongue) in the acquisitional sense, then close to a quarter of the resident population in Singapore are native speakers of Singapore English at the turn of the millennium. Clearly, the number is on the rise – a 4.2 percentage point gain in one decade. Among younger Singaporeans, the percentage of English speakers is much higher: 35.8% of Chinese children aged 5–14 speak English at home, as do 9.4% of Malay children and 43.6% of Indian children of the same age group. For people aged 15–24, the figures are 21.5%, 8.2%, and 37%, respectively. The English spoken at home is SCE rather than SSE (cf. Kwan-Terry 1991, Gupta 1994a).

Despite its status as a native language for a sizable segment of the population, and as a language of solidarity and intimacy among speakers, SCE is stigmatized and actively discouraged by the government, the media, and the English-medium school system. Concerned about the widespread use of SCE the government in 2000 initiated the annual Speak Good English campaign to eradicate or at least

reduce the use of SCE, or "Singlish," in the country.[5] The prestige of the exonormative SSE (and standard British or American English) and the stigmatization of the endonormative SCE have engendered a strong sense of linguistic insecurity, or "schizoglossia," among Singaporeans (cf. Lim 1986, Pakir 1994). This state of affairs, I argue in subsequent sections, adversely affects the stabilization and autonomization of linguistic innovations in SCE.

The term "Singapore English" is used in two senses in the recent literature on English diglossia in Singapore: In the broad sense, it refers to the overarching variety that comprises both SSE, the H variety, and SCE, the L variety; in the narrow sense, it refers to SCE only. I will use the term in both senses, switching to the specific terms only when the occasion warrants it. This degree of terminological imprecision is in fact an advantage, since the grammatical boundary between the two varieties is often fuzzy, and some of the phonological features (discussed below) can be found in both varieties, and indeed across the entire cline of proficiency (cf. Pakir 1991a).

Methodologically, early students of Singapore English typically consider grammatical neologisms as errors, or as deviations from the norm of standard English (cf. Crewe 1977). In recent studies, this approach to Singapore English has been rejected in favor of treating it as an autonomous system, to be analyzed in its own terms (cf. Gupta 1991, 1994a,b; Mohanan 1992; Pakir 1994; Alsagoff & Ho 1998). To meet the autonomy requirement, it is crucial that the grammatical innovations, especially those that are stigmatized, stabilize to the extent that their structure can be rigorously analyzed within the framework of a general linguistic theory.

Many innovative grammatical features are of course structurally stable, even though they are socially stigmatized. Singapore English has a number of novel but stable grammatical features, among them the two passive constructions marked by *give* and *kena*. The English passive sentence *John was scolded by her* is rendered as (1a,b):

(1) a.   John *give* her scold        (cf. She scold John)
     a′.  John gei  ta   ma           (cf. *Ta ma* John)
          John give she scold

     b.   John *kena* scold by her      (cf. She scold John)
     b′.  John *kena* marah oley dia    (cf. *Dia marah* John)
          John *kena* scold  by    she

The *give* passive is derived from Chinese, and the *kena* passive from Malay, the main substrate languages of Singapore English. Structurally, the two constructions parallel their Chinese and Malay counterparts, given in (1a′,b′). Both are clearly basilectal features and mark their users accordingly (cf. Pakir 1991b, Bao & Wee 1999). Not surprisingly, the two passives – especially the *give* passive – are hardly heard in present-day Singapore, despite the fact that Chinese and Malay are still the numerically dominant languages in the speech community. Although the *give*/*kena* passives are not widely accepted in the speech community, their structure can nevertheless be unambiguously analyzed: the *give* passive has

the form NP$_2$ *give* NP$_1$ V, which corresponds to the basic SVO order of the active voice, NP$_1$ V NP$_2$. Similarly, NP$_2$ *kena* V *by* NP$_1$ corresponds to the active voice of NP$_1$ V NP$_2$. Novel features of this type do not pose an analytical problem for the autonomy claim.

However, there are features in Singapore English that cannot be adequately analyzed based on language-internal linguistic data alone. The proper analysis of these features needs to make reference to native English, an analytical move that directly contravenes the autonomy claim. To the extent that such features are readily attested, it behooves us to look at Singapore English as a coexistent system dependent upon the full grammatical resources of native English. I take up this issue in the fifth section.

TWO AUTONOMOUS FEATURES OF SINGAPORE ENGLISH

The novel features[6] in the phonology of Singapore English fall into two major types: those that can be analyzed on language-internal evidence, and those that cannot be so analyzed. I will call the former AUTONOMOUS features, the latter NON-AUTONOMOUS features. In this section, we will discuss two autonomous features: obstruent devoicing, and plosive deletion and glottalization. Non-autonomous features are discussed in the following section. As a heuristic measure, I assume that SCE and SSE are separate, independent dialects.

*Obstruent devoicing*

Voiced obstruents in Singapore English become voiceless when they occur at the end of a syllable. This is illustrated in the following examples (the dots in 2b,c mark syllable boundaries):

| (2) a. | ro*b* | [-p] | b. | a*b*normal | [-p.-] | c. | ro*bb*ery | [-.b-] |
|---|---|---|---|---|---|---|---|---|
| | li*v*e | [-f] | | li*v*ely | [-f.-] | | li*v*ing | [-.v-] |
| | no*s*e | [-s] | | new*s*paper | [-s.-] | | no*s*y | [-.z-] |
| | hea*d* | [-t] | | a*d*vise | [-t.-] | | hea*d*ing | [-.d-] |
| | ju*dge* | [-tʃ] | | ju*dg*ment | [-tʃ.-] | | ju*dg*ing | [-.dʒ-] |
| | be*g* | [-k] | | ma*g*nify | [-k.-] | | be*gg*ar | [-.g-] |

To avoid the complication of vowel qualities, only syllable-final consonants are transcribed.

Voicing remains distinctive among obstruents in Singapore English, as attested in such minimal pairs as *to* and *do* (for /t/ and /d/) and *Sue* and *zoo* (for /s/ and /z/). We formulate the devoicing rule as follows (C, consonants; $, syllable boundary):

(3) Obstruent Devoicing
C → [−voice] / __ $

Obstruent devoicing is widely accepted within the speech community in both formal and informal speech, and it appears to carry little or no social stigma (cf. Tay 1979, 1982; Platt & Weber 1980). It can be analyzed on language-internal

evidence: The consonants are not devoiced when the environment is modified, as is the case when vowel-initial suffixes are attached to the stem (2c).

*Plosive deletion and glottalization*

Plosives may be deleted, glottalized, or unreleased, depending on the environment. These processes have been noted in the literature on Singapore English (cf. Tay 1982, Platt & Weber 1980) and are obvious to the casual observer in present-day Singapore. Plosive deletion data are given below:

| (4) | a. | limp | [-m] | b. | limping | [-mp-] |
|---|---|---|---|---|---|---|
| | | act | [-k] | | actor | [-kt-] |
| | | rent | [-n] | | rental | [-nt-] |
| | | send | [-n] | | sender | [-nd-] |
| | | mask | [-s] | | masking | [-sk-] |
| | | stink | [-ŋ] | | stinky | [-ŋk-] |

From the data, we can see that a plosive is deleted when it is preceded by another consonant in the coda. It is easy to demonstrate that words such as *limp* and *act* are lexically specified with the final plosives, which are deleted by rule. When the words in (4a) are combined with vowel-initial suffixes, the plosives surface, as in (4b).

Word-final plosives preceded by vowels are not deleted. Instead, they are unreleased, often accompanied by glottal reinforcement, as displayed below:

| (5) | a. | lap | [-ʔp˺] | let | [-ʔt˺] | back | [-ʔk˺] |
|---|---|---|---|---|---|---|---|
| | b. | lab | [-ʔp˺] | lead | [-ʔt˺] | bag | [-ʔk˺] |

Note that the voiced stops exhibit the effect of Plosive Devoicing.

We formulate the plosive rules as follows (V, vowel):

(6) a. Plosive Deletion
$$[+\text{stop}] \rightarrow \varnothing \ / \ C \ \_\_ \ \$$$
b. Plosive Glottalization
$$[+\text{stop}] \rightarrow [+\text{glottal}] \ / \ V \ \_\_ \ \$$$

For ease of exposition, I will continue to transcribe plosives without the phonetic detail produced by Plosive Glottalization.

Fricatives or affricates are not deleted regardless of their environment:

| (7) | fence | [-s] | lens | [-s] (< [-z]) |
|---|---|---|---|---|
| | leaf | [-f] | love | [-f] (< [-v]) |
| | lease | [-s] | buzz | [-s] (< [-z]) |
| | lunch | [-tʃ] | lounge | [-tʃ] (< [-dʒ]) |
| | teach | [-tʃ] | bridge | [-tʃ] (< [-dʒ]) |

Plosive deletion and glottalization are pervasive features of Singapore English. The plosive rules in (6) apply to all words that meet the structural description and are widely attested in all social strata of the community (cf. Platt & Weber 1980:51). Since they can be analyzed on internal evidence alone, without reference to native English, these robust features are not problematic for the autonomy claim.

There is no doubt that much of the phonology of Singapore English is quite stable, but there are phonological changes that lack stability: They lack generality, enjoy low acceptance in the community, or cannot be analyzed based on language-internal evidence. It is these features that make the phonology of Singapore English non-autonomous. We will consider five such features.

*Vowel length and stress placement*

It has been observed that Singapore English has five vowel contrasts, plus the schwa. The vowels are shown below (adapted from Tongue 1974, Tay 1979, 1982, Platt & Weber 1980, Brown 1988, 1991, Hung 1996, Deterding & Poedjosoedarmo 1998, and Brown et al. 2000):

(8)  i          u
       ɛ          o
           a

The authors cited above do not all use the same vowel symbols; I have chosen the typographically simple ones. This vowel inventory is typical of English-based pidgins and creoles (cf. Mühlhäusler 1986). The most significant difference is the loss of length contrast. The correspondence of the five vowels with those of native English is as follows (SgE, Singapore English; RP, Received Pronunciation)[7]:

(9)  SgE   RP        Examples
      i       i: ~ ɪ      beat ~ bit
      u       u: ~ ʊ     pool ~ pull
      ɛ       ɛ ~ æ      bet ~ bat
      o       ɔ: ~ ɒ     court ~ cot
      a       ɑ: ~ ʌ     cart ~ cut

Obviously, the RP minimal pairs are no longer minimal pairs in Singapore English.
  Now, consider the stress patterns of words below:

(10)    SgE         RP
      a. commént    cómment
         contént    cóntent
      b. abácus     ábacus
         tópic      tópic
      c. caléndar   cálendar
         charácter  chárácter

The word *content* has final stress in Singapore English regardless of its lexical category. It has been observed that stress in Singapore English tends to shift toward the end of the word (cf. Tongue 1974, Platt & Weber 1980). This observation needs to be qualified in view of the data in (10). Note that the word-final rhyme in (10a) is of the type -VCC, in (10b) it is -VC, and in (10c), -V. Stress placement in Singapore English is therefore sensitive to syllable weight: It shifts to the final syllable of the word only if the syllable is heavy.[8] We state the generalization as follows:

(11) If the last syllable is heavy, it is stressed; otherwise the penultimate syllable is stressed.

According to generalization (11), word stress in Singapore English tends to shift to the penultimate syllable. This can be seen in the following words, of which the last syllable is light:

(12) SgE        RP
     indústry    índustry
     broccóli    bróccoli
     phonológy   phonólogy
     optimísm    óptimism
     monopóly    monópoly

Now, consider the words below (the rhyme of the last syllable is transcribed in accordance with native English):

(13) a. assassináte  /-eɪt/
        exercíse     /-aɪz/
     b. contribúte   /-juːt/
        colléague    /-iːg/

In native English, the last syllable of the words in (13) contains either a diphthong or a long vowel, followed by a consonant. The stress pattern exhibited in these words follows from the generalization stated in (11). However, we are faced with a dilemma: Since Singapore English does not contrast vowel length, the last syllable in (13b), *contribúte*, has the same rhyme structure as that of (10b) *abácus*, namely VC, which is light by our definition (cf. n. 8), yet their stress assignments are not identical:

(14)                SgE      RP
     a. abacus      /-əs/    /-əs/    (cf. (10b))
        topic       /-ik/    /-ɪk/
     b. contribute  /-jut/   /-juːt/  (cf. (13b))
        colleague   /-ig/    /-iːg/

The difference in stress placement in (10b) and (13b) can be readily accounted for in terms of vowel length in native English. Unfortunately, based on the vowel system of Singapore English, we cannot explain the stress patterns exhibited in these two groups of words. We may propose that vowel length is contrastive in Singapore English at the level of underlying representation, which is deleted after stress assignment. This solution solves the problem of stress assignment at the cost of absolute neutralization: The underlying vowel length contrast has no phonetic realization in Singapore English. Justifying the underlying length contrast contravenes the autonomy claim. We will address this issue in the next section.

*Interdental fricatives*

The phonemic status of the RP interdental fricatives is problematic in Singapore English. For ease of exposition, we will use the IPA symbols θ, ð in our discussion, although we will see shortly that these two symbols are not appropriate. In most English-based pidgins and creoles, these two fricatives are realized as al-

veolar plosives [t, d] regardless of environment (Mühlhäusler 1986:148). In such cases, we can say that these varieties do not have interdental fricatives in their phonemic inventories, the RP interdental fricatives having been replaced by the alveolar plosives. In Singapore English, however, the realization of RP /θ, ð/ is context-dependent, as shown in (15)[9]:

(15)             SgE       RP

| | | SgE | RP |
|---|---|---|---|
| a. | thin | [t-] | [θ-] |
| | that | [d-] | [ð-] |
| b. | health | [-f] | [-θ] |
| | breathe | [-f] ($<$ [-v]) | [-ð] |
| c. | healthy | [-t-] | [-θ-] |
| | breathing | [-d-] | [-ð-] |

RP /θ, ð/ are realized as alveolar plosives [t, d] in syllable-initial position, and as [f] in syllable-final position. In Singapore English, voiced consonants devoice in word-final position (see ex. 2), which accounts for the neutralization of RP /θ/ and RP /ð/ observed in *health* and *breathe* (15b). We state the realizational pattern of RP /θ, ð/ as follows:

(16)   RP /θ, ð/  ⟶  [t, d]  / $ __

                      [f]     / __ $

RP /θ, ð/ may also be realized as dental plosives (cf. Tan 1989, Brown 1991). We ignore this minute phonetic detail.

     What is the phonemic content of RP /θ, ð/ in Singapore English? We can exclude the possibility that they merge into the alveolar plosives /t, d/ in Singapore English, since word-final /t, d/, derived from RP /t, d/ do not become [f, v]: *guilt* is pronounced as [gilt], not *[gilf]. Similarly, they cannot be labiodental fricatives /f, v/, since words like *leaf/leafy* and *leave/leaving* do not exhibit the relevant alternation. For this reason, Hung 1996 argues that in Singapore English the interdental fricatives are not merged with the alveolar plosives or labiodental fricatives; they are independent phonemes in their own right. However, we cannot determine their phonemic content. In native English /θ, ð/ are interdental fricatives because that is how they are realized phonetically; in Singapore English, however, they are realized either as alveolar stops [t, d], or as labiodental fricative [f], but never as interdental fricatives. In other words, we have no language-internal evidence that RP /θ, ð/ are interdental fricatives in Singapore English.

     The problem we face here is one of abstractness in phonological representation, which was one of the central themes in early generative phonology (cf. Kiparsky 1968, Hooper 1976, Anderson 1985). Ex. (16) constitutes what Kiparsky 1968 calls "non-reversible neutralization": RP /θ, ð/ cannot be deduced from the prevocalic [t, d] and postvocalic [f]. The postulation of RP /θ, ð/ as phonemes of Singapore English will be ruled out by any theory that contains some degree of constraint on the abstractness of underlying representation. In Kiparsky's (1968)

analysis, (16) is barred as a special case of absolute neutralization by the Alternation Condition.[10] In other words, we can justify the postulation of RP /θ, ð/ as interdental fricatives of Singapore English only on the basis of evidence from native English.

The status of RP /θ, ð/, however, is still in flux. Absolute neutralization inevitably exerts pressure on the system of phonological contrast in the emerging and evolving phonology of Singapore English. Influenced by native English and spelling, many people now realize RP /θ/ as [f] syllable-finally, but as aspirated [tʰ] syllable-initially (cf. Tan 1989, Brown et al. 2000). This realizational pattern, which is obvious to the casual observer, is reflected in the minimal pair *team* [tim] and *theme* [tʰim]. RP /ð/ is still realized as [d] and [f], depending on its syllabic position. Ex. (16) is now recast as (17):

(17) a. /θ/ $\longrightarrow$ [tʰ] / \$ __

                 [f] / __ \$

     b. /ð/ $\longrightarrow$ [d] / \$ __

                 [f] / __ \$

Now, RP /t/ is often realized as unaspirated in Singapore English (cf. Tay 1979, Tan 1989). Given the pattern summarized in (17a), we can treat RP /θ/ as aspirated /tʰ/ in Singapore English, and RP /t/ as unaspirated. So a new phonemic alignment is emerging:

(18)     RP        SgE

    a. θ $\longrightarrow$ tʰ

    b. t $\longrightarrow$ t

    c. ð $\longrightarrow$ d

    d. d $\dashleftarrow$ ?

The new phonemic inventory allows us to reformulate part of rule (16), as follows:

(19) /tʰ/ $\longrightarrow$ [t] / \$ __

                 [f] / __ \$

The problem we have identified concerning the phonemic content of RP /θ, ð/ in Singapore English has not completely disappeared at this stage of phonemic restructuring. Exx. (18a,b) resolve part of the problem by phonemicizing RP [tʰ], an allophone of /t/, resulting in the RP /θ ~ t/ contrast being realized as a /tʰ ~ t/ contrast in Singapore English. Exx. (18c,d), however, is still an instance of absolute neutralization that cannot be resolved on language-internal evidence alone. We still need to refer to native English for the phonemic content of SgE /θ, ð/.

*Front mid and front low vowels*

Exactly the same problem arises in the realization of the two native English front mid and low vowels /ɛ, æ/ in Singapore English. In most environments, these two vowels are neutralized, so that minimal pairs such as *bet*/*bat* and *lend*/*land* are no longer contrastive. This view is widely shared among researchers (see Brown 1988, 1991, Lim 1993, Ong 1994, Hung 1996, Deterding & Poedjosoedarmo 1998, Brown et al. 2000).[11] However, close observation reveals a more complex pattern – noted in Tay 1982, Ho 1985, and Wong 1987, and still observable in the casual speech of university students in Singapore. Consider the data in (20):

(20) a. rep    [-ɛ-]      rap    [-ɛ-]
       bet    [-ɛ-]      bat    [-ɛ-]
       neck   [-ɛ-]      lack   [-ɛ-]
   b. bent   [-ɛ-]      lamp   [-ɛ-]
       send   [-ɛ-]      sand   [-ɛ-]
   c. dead   [-eⁱ-]      bad    [-ɛ-]
       wedge   [-eⁱ-]     badge   [-ɛ-]
       leg    [-eⁱ-]      lag    [-ɛ-]

In the data, [eⁱ] represents a slight diphthong, which is also the realization of the diphthong /eɪ/ found in words like *bay* and *lake*. As a result of obstruent devoicing (see 2–3), *dead*, *wedge*, and *leg* surface as [deⁱt], [weⁱtʃ], and [leⁱk], respectively. Anecdotal evidence bears out this observation: the word *deadline* is often heard and written as *dateline* by Singaporean students. We summarize the pattern exhibited in (20) as follows:

(21) a. æ ⟶ ɛ

   b. ɛ ⟶ eⁱ      before voiced stops    (i)

        ⟶ ɛ       elsewhere           (ii)

RP /ɛ/ is raised and diphthongized before voiced stops (21b-i), but RP /æ/ is realized as [ɛ], which makes for partial merger between the two RP vowels in Singapore English. If we were to postulate /ɛ, æ/ as phonemes of Singapore English, (21a, b-ii) are cases of absolute neutralization – the phonemic contrast between the two vowels is neutralized regardless of environment.

     Here we find ourselves in an analytical quandary. We must maintain phonemic contrast between the two vowels in Singapore English, given their distinct realizational patterns, yet, we have no Singapore English-internal evidence for postulating /æ/ as a low front vowel, since it is always realized as a mid front vowel, and never as a low front vowel. The only way out of this quandary is to appeal to native English, in violation of the autonomy claim.

*Intrusive* j

A few words are pronounced with the glide *j* inserted in an identifiable phonological environment.[12]

(22)  aluminium  […nʲɛm]
      platinum   […nʲɛm]
      villain    […lʲɛn]
      guidance   […dʲɛns]
      Spartan    […tʲɛn]
      Tibetan    […tʲɛn]

The occurrence of intrusive *j* is not random. As the words in (22) show, *j* is preceded by *n*, *l*, *d*, *t* and followed by the vowel [ɛ] (or [ə] in RP) and a nasal. The segments *n*, *l*, *d*, *t* have one property in common: They are coronals articulated with airflow either completely or centrally blocked at the alveolar region. Using [−continuant] to mean lack of midsagittal airflow, we state the rule in (23).

(23)  Coronal Palatalization
      $\varnothing \rightarrow {}^j / \left( \begin{matrix} +\text{coronal} \\ -\text{continuant} \end{matrix} \right)$ ___ ɛ [+nasal]

Here, I interpret the intrusive *j* phenomenon as coronal palatalization.

It is not easy to trace the origin of intrusive *j*. Most likely it emerges on analogy to familiar words such as *aluminium* RP [ælu:mɪnɪəm]/SgE [əluminʲɛm] and *guardian* RP [gɑ:dɪən]/SgE [gadʲɛn], which have the environment to which rule (23) applies. Whatever the origin, intrusive *j* is not widely accepted in the community and is restricted to a few words. For example, it does not occur in words such as *Dylan* SgE [dilən]/*[dilʲɛn] and *silence* SgE [sailəns]/*[sailʲɛns], even though they meet the structural description of Coronal Palatalization.[13] The slow diffusion of this innovative feature from speaker to speaker and from word to word presents a serious dilemma for synchronic analysis. One may be justified in arguing that the words in (22) are lexically specified with *j*, rather than derived from their native English counterparts with rule (23). Under this analysis, which is consistent with the autonomy claim, these words are no longer problematic. Unfortunately, the synchronic analysis does not explain away the unstable nature of intrusive *j* from a diachronic perspective. One still needs to explain the slow diffusion of intrusive *j* in the development of Singapore English, which we attribute to the social stigma associated with it.

*Labial spread*

Two words, *handsome* and *kidnap*, have rather peculiar pronunciations in Singapore English:

(24)  handsome  [hɛmsəm]  (cf. RP [hændsəm])
      kidnap    [kipnɛp]  (cf. RP [kɪdnæp])

In each of these words, the coda consonant of the first syllable shares the same labial place of articulation as the coda segment of the second syllable. Since there is no other source of labiality, we conclude that *n* in *hand-* and *d* in *kid-* assume the labial feature from the word-final consonants *m* and *p*, respectively (cf. *handshake* SgE [hɛnʃeⁱk]/*[hɛmʃeⁱk], *kidney* SgE [kitni]/*[kipni]). Other things happen as well: *d* is deleted in *handsome* (as in RP), and devoiced and unreleased in

*kidnap*. Clearly this is a case of place assimilation involving non-adjacent segments. A similar case of place assimilation is attested in the locally derived word *nonya* 'Straits-born Chinese woman,' which has two pronunciations ($n^j$, palatal nasal):

(25) a. [nõn$^j$ã]
     b. [n$^j$õn$^j$ã]

In the second pronunciation, the two nasals share the same place of articulation – as if the palatal articulator "spreads" to the preceding alveolar nasal.

Among the world's extant languages, assimilation is typically local, involving segments that are adjacent at some level of analysis. The most common type of long-distance assimilation involves nasality, which is independent of the articulators in the oral cavity. What we see in (24) is a case of long-distance assimilation of place of articulation, which is not attested cross-linguistically (but see Poser 1982). In the theory of feature geometry (cf. Sagey 1986), assimilation is treated as spreading of the assimilating feature or group of features, as shown below (Lab, labial; Cor, coronal):

(26) a. h ɛ n   s ɔ m
              Cor  Lab

     b. k i d   n ɛ p
              Cor  Lab

The dashed line indicates the assimilatory spread. Formally, the structures in (26) are ill-formed, since they violate the prohibition against line crossing, a common well-formedness constraint in autosegmental phonology (cf. Williams 1976).

Like intrusive *j*, labial spread is not regular at all. In fact, I am able to find only two examples, *handsome* and *kidnap*. Given the paucity of data, the assimilation analysis shown in (26a,b) is not strong synchronically, but diachronically, the two words are derived from sources that do not show labial assimilation. However isolated the examples are, the phenomenon exhibited in *handsome* and *kidnap* is a rare occurrence cross-linguistically.

GRAMMATICAL AUTONOMY AND COEXISTENT SYSTEMS

The autonomy claim is premised on the assumptions that grammars are monolithic, and that the vernacular and standard varieties of Singapore English – SCE and Singapore SSE – are separate dialects of English with independent grammatical systems. Under the bidialectal treatment of Singapore English, we are confronted with the intractable problem of evidence. As we have seen, an adequate analysis of the phonological features of Singapore English requires empirical evidence from native English, overstepping the boundary of grammatical autonomy.

Fries & Pike 1949 showed that the phonology of loanwords may come into conflict with the phonology of native words. Instead of dismissing unassimilated loanwords as exceptions, they treat the two phonologies as coexistent systems of the same language. A language, in other words, is not monolithic, in that it may contain heterogeneous grammatical systems, either in conflict or in parallel. The notion has since been used to describe the internal variation of contact languages. Tsuzaki 1971 sees Hawaiian English as comprising three coexistent systems: Hawaiian Pidgin English, Hawaiian Creole English, and Hawaiian Dialect English. Similarly, Labov 1998, building on his earlier work (cf. Labov 1971) and the work of Mufwene 1992, argues that African American Vernacular English (AAVE) contains a General English component and an African American component. The two components are asymmetric: the African American component is only a subset of grammatical and lexical features that are used in combination with the full complement of linguistic resources of General English.

Singapore English can be analyzed in exactly the same way as AAVE has been treated by Mufwene 1992 and Labov 1998. Analogous to AAVE, SCE and SSE are seen as coexistent systems that are distinct yet interdependent. This treatment allows us to approach the phonological features of SCE from a different perspective. Since coexistent systems are interdependent, and one system is not autonomous from another, one may be justified in using data from one system as evidence in the analysis of another, especially in situations where system-internal evidence is lacking. Without the constraint imposed by autonomy considerations, we can postulate vowel length, interdental fricatives /θ, ð/, and front vowels /ɛ, æ/ for SCE based on evidence from SSE, which, by definition, does not differ in phonemic inventory from standard native English. Similarly, words to which rules such as Coronal Palatalization and Labial Spread apply form one subsystem distinct from the subsystem of words that are exceptional. SCE is in the midst of phonemic restructuring, which is one of the possible causes of coexistent systems identified by Fries & Pike 1949. The non-autonomous phonological features that we have demonstrated suggest that the process has yet to be completed. The phonemic system of SCE is not fully autonomous. Endonormative SCE is still dependent upon the full grammatical and lexical resources of exonormative SSE.

## SOUND CHANGE AND SOCIAL STIGMA IN CONTACT ECOLOGY

The phonological processes described above fall into three types. The first type, or Type I, includes obstruent devoicing, plosive deletion, and plosive glottalization, which are autonomous and productive phonological processes of Singapore English. They are not perceptually salient and appear to carry no or little social stigma. A casual visitor to Singapore may notice them in all sorts of contexts – in the speeches of government officials, in the lectures of schoolteachers and university professors, and in conversations with shopkeepers. These features are not unique to Singapore English, and in various forms they are widely attested in

other varieties of nonnative English (cf. Mühlhäusler 1986, Romaine 1988, Arends et al. 1994, Sebba 1997), as well as in native English (cf. Labov 1972b, Wolfram & Johnson 1982, Trudgill 1990, Hawkins 1992, Manfred 1994). The rules that account for these processes – Obstruent Devoicing, Plosive Deletion, and Plosive Glottalization – do not represent change in progress. Singapore English is not in transition to a stage in which voicing loses its distinctiveness among obstruents. They express synchronic alternation on a par with phonologically conditioned allomorphy of the plural morpheme in native English.

Of the non-autonomous features discussed above, vowel length and stress placement and phonemic restructurings may be considered Type II, whereas intrusive *j* and long-distance assimilation constitute Type III. We will address the difference between the two types shortly. Unlike Type I features, Types II and III features are perceptually salient and give a unique "flavor" to the phonology of Singapore English, contributing to its differentiation from native English or other varieties of nonnative English. Given the continued dominance and prestige of native English in modern Singaporean society, it is not surprising that these phonological innovations are stigmatized.

Type I features are instances of synchronic phonological alternation, but Types II and III features are changes in progress. Two differences between the latter two types are crucial. First, Type II features realign the phonemic contrasts within Singapore English, whereas Type III features change the phonological shape of the target words. Second, Type II features, which originate in phonemes and consequently affect all words with the appropriate phonemic makeup, exhibit Neogrammarian regularity; Type III features, which affect only a few words, exhibit lexical diffusion. These data demonstrate that sound change in progress in contact varieties can be studied in the same theoretical paradigm as sound change in "normal" languages, and that such sound changes fall into the familiar Labovian dichotomy, even though they differ in formal detail and functional motivation from the ones commonly examined in the literature (cf. Wang 1969, Chen & Wang 1975, Chen 1977, Labov 1981, 1994, Kiparsky 1988, Hock 1991). The Singapore English data allow us to conclude that phonemic restructuring is Neogrammarian change, and changes that do not result in phonemic restructuring are lexical diffusion.

The effect of social stigma on contact-induced sound change can be characterized along the Labovian dichotomy. If the novel feature is of a Neogrammarian type, stigmatization impedes its stabilization to the extent that synchronic analysis based on system-internal evidence may be rendered problematic. If, on the other hand, the novel feature is of the lexical diffusion type, lack of prestige slows, and quite possibly arrests, its word-to-word spread within the lexicon, and its speaker-to-speaker spread within the speech community. This is especially true if the feature itself is phonologically marked, such as intrusive *j* and long-distance labial assimilation. In "normal" language communities, a phoneme needs to acquire prestige before it spreads (cf. Sturtevant 1947, Joos 1952, Labov 1972a);

in contact ecologies, prestige, or the lack of it, plays an even more important role in the success of linguistic innovation.

Contact-induced sound changes need not be restricted to those that result from outright borrowing from the languages in the contact ecology, and their origins are often obscure. Type I features of Singapore English may be due to the influence of the substrate languages, mainly Hokkien (Southern Min), Cantonese, and Malay,[14] but the origin of Types II and III features cannot be attributed to the languages in the contact ecology – they are not attested in native English, the dominant language, nor are they derivable from parallel linguistic processes in the substrate languages. Phonological analogy may provide a good explanation for intrusive $j$, but not for long-distance labial spread. As for Type II changes, while it is plausible to provide substrate explanation for the realization of RP /θ/ as SgE [t] and for the merger of RP /ε, æ/, none of the contact languages has the interdental fricative or maintains the mid/low contrast in vowels, and the phonemic restructuring processes affecting RP /θ/ and RP /ε/ have no analog in the substrate languages. We may attribute the /θ/-to-/t$^h$/ restructuring to English orthography, but the same line of reasoning fails to account for the context-sensitivity of RP /ε/. Type II changes nudge the phonemic system of Singapore English closer to that of native English; conceivably, these changes may emerge under pressure from decreolization through exposure to standard English in school and other formal contexts (cf. DeCamp 1971, Pakir 1994). Type III changes move the language in the opposite direction.

Despite their obscure origins, the changes that emerge in the development of Singapore English provide empirical evidence for grammatical creativity and derivational depth in nonnative English (cf. Platt 1989). Indeed, the occurrence of innovative features, especially features that cannot be attributed to any of the languages in the contact ecology, is symptomatic of a contact language undergoing the dynamic process of stabilization (cf. Mühlhäusler 1980, 1986) and subsequent autonomization. Though synchronically unstable, grammatical innovations in progress in nonnative English enrich its variety by adding derivational depth to its otherwise shallow phonology (cf. Kay & Sankoff 1974). Obviously, if they were to diffuse more widely in the vocabulary and to enjoy wider acceptance in the speech community, grammatical innovations would in time become stabilized and would take nonnative English further away from the grammatical norms of native English. Dialect divergence is the inevitable result of uneven innovation in the grammar of a language, native or otherwise.

CONCLUSION

We have considered a few novel phonological features of Singapore English, and have argued that social stigma associated with the features is responsible for their non-autonomous nature. These features provide strong empirical evidence to see SCE not as a separate, independent dialect but as a coexistent system interdepen-

dent with SSE. SCE and SSE are two distinct but interdependent components of Singapore English.

In communities where nonnative English is spoken, native English continues to enjoy prestige unmatched by the localized variety. In such a contact ecology, grammatical innovations typically face two antagonistic forces: the conservative, decreolizing influence of the grammatical norms of native English, and the dynamics of internal linguistic change of nonnative English, whether induced by language contact or not. To a large extent, these two forces shape the grammar of an emerging contact variety. "Nonstandard" features are relatively easy to stabilize if they are not perceptually salient. This is the case with consonant devoicing and stop deletion in Singapore English. Perceptually salient innovative features, such as those discussed here as non-autonomous features, need to lose their social stigma before they stabilize and become an accepted part of the language in the wider speech community.

Diffusion of linguistic neologisms is slow in the history of "normal" languages (cf. Wang 1969, Chen & Wang 1975, Chen 1977, Labov 1981, 1994). In contact varieties, it is slowed by linguistic (e.g. marked innovation) and extralinguistic (e.g. stigmatization) factors in the contact ecology. The relative short history of modern nonnative English does not provide sufficient time depth for grammatical innovations to work their way through the emerging contact variety. Singapore English, for example, did not exist before 1819, when the British East India Company annexed the island as a trading depot. Besides the short history, two destabilizing factors stand out: lack of prestige, and functional deficit. SCE is restricted to the status of a spoken vernacular in Singapore, outside the domain of communicative functions that convey prestige on the language. As a coexistent system, the endonormative vernacular variety is dependent upon the full grammatical resources of the exonormative standard variety (cf. Labov 1998). Its unstable grammatical features and its light functional load are locked in a vicious circle: Nonautonomous grammatical features are not easily codifiable, and lack of codification hinders the development of functional capabilities of the language, which in turn retards the growth of sophisticated and codifiable grammatical resources. As long as the current contact ecology persists, nonnative English is incapable of developing an adequate level of communicative capability that would prepare it for the long and tortuous journey of standardization (cf. Ferguson 1962, Haugen 1972, Pakir 1994, Leith 1997, Schiffman 1998). Kachru 1985 considers outer-circle English – or nonnative English, in our term – as "norm-developing," in contrast to "norm-producing" inner-circle, or native, English. The term "developing" underscores the dynamic and fluid nature of the grammar of nonnative English. The fluidity of grammatical norm results from its unique historical and sociolinguistic circumstances. In face of native English dominance in its own community, nonnative English, even though it may convey intimacy and solidarity among its users, remains a diglossic complement to the high-prestige, exonormative native English.

## NOTES

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[1] A brief note on the terms "native" and "nonnative" is in order. There are two distinct senses in which these are used in the literature. One sense is historical. From the perspective of genetic linguistics, native Englishes have typically developed through parent-child transmission. Nonnative Englishes, by contrast, exhibit varying degrees of contact-induced grammatical change, or interference, similar to pidginization or creolization. These processes give rise to enormous functional and formal variation between native and nonnative Englishes, and among nonnative Englishes (cf. Kachru 1981). The other sense is acquisitional. The native language of a speaker is the first language he or she has learned, and the speaker is in turn a native speaker of that language (cf. Bloomfield 1984). Given these two senses, nonnative Englishes may have native speakers, especially in places like Singapore, where children now grow up with English as one of their mother tongues. Following common practice in the literature, I will use the term "native" in both senses. The term "native English" is used to refer to standard varieties of English, including SSE. I am grateful to one reviewer for pointing out the ambiguity of the term 'native.'

[2] See, among others, Hall 1966, Haugen 1972, Bickerton & Givón 1976, Platt & Weber 1980, Mühlhäusler 1986, Mufwene 1988, 1994, Arends, Muysken & Smith 1994, McWhorter 1997, Sebba 1997, Thomason 1997, and Holm 2000. The creolist Robert Hall expresses this view succinctly:

> [I]nvestigations by unprejudiced investigators, using modern techniques of linguistic observation and analysis, have demonstrated conclusively that all pidgins and creoles, even the simplest, are as amenable to description and formulation as are any other languages. Their structures, although in some ways simpler than those of full-sized languages, are nevertheless complete in themselves, and are not "crude," "distorted," or "tortuous." (Hall 1966:107)

Fromkin & Rodman 1993, a popular linguistics text, echoes the same sentiment: "Pidgins are simple, but are rule governed" (297). Bickerton & Givón 1976 attribute this assumption to attempts by linguists to raise the social prestige of nonnative varieties, especially that of pidgins and creoles.

[3] See, among others, Crewe 1977, Tongue 1974, Tay 1979, 1982, Platt 1975, Platt & Weber 1980, Lim 1986, Gupta 1991, 1994, Pakir 1991a,b, 1994, Kwan-Terry 1991, Mohanan 1992, Ho & Platt 1993, Gopinathan et al. 1994, Alsagoff & Ho 1998, Brown et al. 2000, and Ooi 2001.

[4] The data are adapted from Literacy and Language, Advance Data Release No. 3, Singapore Census of Population 2000, which is available from the website of the Government of Singapore (http://www.gov.sg). The category of "Chinese dialects" includes Southern Min (Hokkien and Teochew), Cantonese, and a host of smaller regional dialects. The vast majority of early immigrants to Singapore came from non-Mandarin-speaking areas.

[5] Apparently the government hopes to emulate the success of the Speak Mandarin campaign, now in its twenty-second year. In 1990, Mandarin was the primary home language for 23.7% of the population; in 2000, of 35%. The proportion of Singaporeans speaking other Chinese dialects at home has declined from 39.6% in 1990 to 23.8% in 2000.

[6] The data discussed in this paper are obtained from various published sources (Tongue 1974, Tay 1982, Platt & Weber 1980, Brown 1988, 1991, Hung 1996, Deterding & Poedjosoedarmo 1998, and Brown et al. 2000) as well as from unpublished honors theses written by graduating students of the Department of English Language and Literature, National University of Singapore (Ho 1985, Wong 1987, Tan 1989, Lim 1993, and Ong 1994). Where variation occurs in the realization of a given phonological feature, I follow the pattern that can be verified in the idiolects of a few speakers from my own observation.

[7] RP transcription follows the Oxford English Dictionary. For convenience, I use RP to represent the phonemic inventory of native English. Since SSE has the same phonemic inventory as the stan-

dard varieties of native English, especially standard British English (cf. Tay 1982, Lim 1986), the RP-based transcription remains valid for SSE in relevant respect.

[8] I will not go into details about the definition of syllable weight. Suffice it to say that light syllables are those that contain only one short vowel, plus those that contain one short vowel followed by a single consonant in word-final position. See Chomsky & Halle 1968, Halle & Vergnaud 1987, and Hayes 1995 for discussion of the theory of metrical phonology assumed in this article.

[9] Tan 1989 studies the realizational pattern of these two RP phonemes among bilingual Chinese, Malay, and Indian Singaporeans, and finds variation not only between idiolects but also in the same idiolect. A broad pattern emerges, however. Syllable-initial RP /θ/ is realized as [θ], [t] and [tʰ]. By far, [t] is the dominant realization, followed by [tʰ], especially in informal contexts and among Chinese and Indian Singaporeans. In syllable-final position, RP /θ/ is realized as [θ], [f], and, interestingly, [v]. Similar observations are made by Hung 1996 and Moorthy & Deterding (in Brown et al. 2000). The pattern described here can be observed easily in the casual, informal speech of Chinese Singaporeans.

[10] One version of the Alternation Condition is stated informally as follows:

> Each language has an inventory of segments appearing in underlying representations. Call these segments phonemes. The [Underlying Representation] of a morpheme may not contain a phoneme /x/ that is always realized phonetically as identical to the realization of some other phoneme /y/. (Kenstowicz and Kisseberth 1979:215)

This formulation of the Alternation Condition puts a well-formedness constraint on underlying representation: The underlying representation of *health* in Singapore English cannot contain /-θ/ because it is always realized as [-f], the same as /f/ in *leaf*.

[11] Unfortunately, most researchers who think that RP /ε, æ/ are indistinguishable in Singapore English do not take environmental factors into consideration. For example, Ong 1994 and Suzanna & Brown (in Brown et al. 2000) study the acoustic properties of the two vowels in the context b_t (as in *bet*/*bat*), but not b_d (as in *bed*/*bad*), which would provide the right conditioning on /ε/ observed in (20c).

[12] The vowel following the intrusive *j* is raised and fronted to [ε], as is expected from the articulatory point of view. The intrusive *j* is superscripted to show that the preceding coronals are palatalized. The intrusive *j* shows up in spelling as well. The student-run newspaper published in the National University of Singapore once ran an advertisement for student-led *Tibetian* trekking trips.

[13] Exceptions to Coronal Palatalization appear to be truly exceptional. In *SPE*-type generative phonology (Chomsky & Halle 1968), ad hoc diacritics are used to ensure that Coronal Palatalization applies only to the forms listed in (22), but not to forms like *Dylan*, even though they meet the structural description of the rule. True exception is to be distinguished from apparent exception, or phonological opacity. Post-*SPE* approaches to exceptions include underspecification (Kiparsky 1993), pre-specification (Inkelas et al. 1997), co-phonologies (Inkelas 1998), and sympathy (McCarthy 1999). Since our purpose lies elsewhere, I will not attempt a theoretical analysis of exceptions encountered by rules such as Coronal Palatalization.

[14] One may be tempted to provide a substrate explanation of Type 1 features, since the major substrate languages, Chinese dialects and Malay, do not allow consonant clusters, and syllable-final stops are unreleased and glottalized (see Bodman 1955 on Hokkien, Matthews & Yip 1994 on Cantonese, and Mintz 1994 on Malay). As I have pointed out, these processes are common among English-based pidgins and creoles that do not share substrate languages, and in a number of native English varieties as well.

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