Number Marking in Colloquial Singapore English

Chonghyuck Kim¹, Qizhong Chang², and Leslie Lee³

¹National University of Singapore
eellkc@nus.edu.sg
²University of Southern California
qchang@usc.edu
³University of California, San Diego
leslie@ling.ucsd.edu

Number marking in Colloquial Singapore English (CSE) has often been described as sporadic or random. This description stems from the fact that plural marking is largely optional in CSE, combined with a lack of precise characterization of its optionality. We show that CSE number marking is not random but systematic; plural marking is obligatory on a noun that occurs with a number-neutral determiner in Determiner+Noun sequence, and optional elsewhere. We propose a principle called Avoid Ambiguity Principle and derive the optional but not-so-optional nature of CSE number marking from an interaction between the principle and the structure of a nominal expression.

Unlike CSE, English displays obligatory number marking. We argue that this is a result of the two languages differing in two respects – (i) English always projects D, whereas CSE does so optionally; (ii) English D comes with unvalued [αpl], whereas CSE D comes with valued [+/-pl]. These language-specific parameters, coupled with the Avoid Ambiguity Principle, capture the differences between the two languages. Under our analysis, English transformed to CSE by a parameter resetting in category D when it came to Singapore.

Keywords: Number Marking, Singapore English, Avoid Ambiguity, Parameters, Nominals, Determiners, Agreement

1. Introduction

In an introductory book to Colloquial Singapore English (CSE, hereafter), Crewe writes “In Singaporean English there is a tendency not to bother too much about the plural –s if the sentence is reasonably clear.” (Crewe 1977: 14) This remark well reflects how CSE number marking is commonly perceived by non-native speakers: Crewe’s words such as ‘tendency’ and ‘reasonably clear’ emphasize the view that there is no clear discernable pattern in CSE number marking. Even to native speakers and linguists alike, CSE number marking looks confusing as well. In an overview of important characteristics of nouns and noun phrases in CSE, Wee and Ansaldo state “it is entirely possible that number marking in CSE has not yet stabilised or been conventionalised to the point where it can be said to be clearly conditioned by either grammatical or sociolinguistic factors.” (Wee and Ansaldo 2004: 65) Other studies (e.g. Platt and Weber 1980; Gupta 1994) share the same view, though they may be different in their speculations of the possible source of the unstable status of CSE number marking.

Gil (2003) is a notable exception to this pervasive view towards CSE number marking. He observes that there is an intricate pattern to CSE number marking, and claims based on the observation that “when English came to Singapore, it assimilated to the East Asian mold…” (Gil 2003: 499) Gil’s finding is significant in that it refutes the long standing pessimistic view that CSE number marking is unpredictable, providing hope that it can be described and explained in a systematic manner. His claim that CSE number marking is a product of Standard English (English, hereafter) assimilated to the East Asian mould is also appealing as it suggests that a language can transform into a different form with simple adjustments. Unfortunately, Gil does not give a precise and falsifiable analysis to his observation, leaving important questions unanswered; what is it that governs the number marking pattern of CSE and how is it different from that of English? The lack

---

1 CSE, also referred to as Singlish, is a language borne from contact between the superstrate language English and its substrate languages Chinese languages and Malay. It stands in contrast with Standard Singapore English and is used widely in the multi-racial Singaporean community.
of answers to these questions also makes his claim for the transformation of English into CSE vacuous. In this paper, we aim to answer the questions left unanswered in Gil’s work, which leads to a plausible hypothesis as to how English assimilated to the East Asian mould in Singapore.

This paper is organized as follows. Section 2 introduces CSE number marking patterns in comparison with English. The patterns are basically those Gil (2003) already observed, with a couple of new observations of our own. In section 3, we make proposals and analyze the CSE data introduced in section 2. In section 4, we compare English and CSE number marking systems and examine their similarities and differences. Section 5 concludes the paper.

2. Number marking in CSE

Number is transparently reflected on the morphological shape of a nominal expression in English. The plural morpheme –s, as in *dogs in (1b), and its absence, as in a dog in (1a), mark the plurality and the singularity of the nominal expression. In addition, English bars its count nouns from appearing bare, as shown in (1c).

(1) a. John saw a dog yesterday.
   b. John saw dogs yesterday.
   c. *John saw dog yesterday.

CSE does not have such straightforward relationship between number and morphology. While a plural-marked noun, as in dogs in (2a), behaves on a par with its English counterpart, a nonplural form, as in dog in (2b), behaves differently from its English counterpart; it can appear bare and, when it does, it is interpreted ambiguously – singular or plural depending on context.

(2) a. John saw dogs yesterday.  (PL)
   b. John saw dog yesterday.  (SG/PL)
      ‘John saw one or more dogs yesterday.’
One might expect from sentence (2b) that CSE nonplurals are always interpreted as singular or plural. This expectation does not hold. When used with determiners such as the and dis, they are unambiguously interpreted as singular, as in (3a). For a plural reading to obtain, plural marking is necessary, as in (3b).

(3) a. John saw the/dis dog yesterday. (SG)  
   ‘John saw one dog yesterday.’  
   b. John saw the/dis dogs yesterday. (PL)  
   ‘John saw more than one dog yesterday.’

In this context, CSE is similar to English – number marking is obligatory. The observation we just made – that number marking is obligatory in the context of determiners the/dis – is largely true, but it is not entirely correct. To make things complicated, when a plural expression such as a numeral appears within a DP headed by the/dis, as in (4a), number marking is no longer obligatory.

(4) a. John saw the/dis three dog(s).  
   b. John saw three dog(s).

Finally, consider how number interacts with the determiners that and those, which display a different number marking pattern from the/dis. The plural distal demonstrative those behaves like a (plural denoting) numeral. Thus, a noun following those is interpreted as plural even without –s.

(5) John saw those dog(s) yesterday. (PL)  
   ‘John saw more than one dog yesterday.’

In contrast, the singular counterpart that is not compatible with plural marking. That dog in (6a) only refers to a singular entity, behaving like the/

\footnote{Most Singaporeans do not make a phonological distinction between this and these, though they make the orthographic distinction in writing. As our analysis is based on spoken data, we assume that there is one form of proximal demonstrative, which we spell as dis.}
That diverges from the/dis, however, in that it does not allow a plural-marked noun, as in (6b).

(6) a. John saw that dog yesterday. (SG)
   ‘John saw one dog yesterday.’
   b. *John saw that dogs yesterday.3 (PL)

The following summarizes the CSE number marking patterns examined in this section.

(7) a. Bare Noun: bare nouns can be singular or plural. (Plural marking is optional.)
   b. The/dis+Noun: number marking is obligatory when a noun appear in a DP headed by the/dis without a plural expression in it. (Plural marking is obligatory.)
   c. The/dis+Numeral+Noun: when a (plural) numeral is present in a nominal expression, plural marking is optional regardless of the presence of the/dis.
   d. That/those+Noun: plural marking on nouns preceded by those is optional, whereas plural marking on nouns preceded by that is not allowed.

The CSE number marking patterns summarized in (7) may look complicated, especially when compared to those of English. However, this does not mean by any means that they are unpredictable or unsystematic. It is clear that there exist predictable number marking patterns in CSE, no matter how complicated they might look. In the next section, we consider these

---

3 Gil (2003) claims that that is neutral with respect to number and reports the following example (his (6b)) as evidence.

(i) Geraint eat that apples. (Gil 2003: 474)

Two of the authors of this paper, who are native speakers of CSE, find this example odd. We do not, however, rule out the possibility that this example is accepted by some native speakers. Apparently, these speakers do not make a distinction between that and those. Our treatment of dis can be straightforwardly extended to cover the use of that by these speakers.
3. Proposals and analyses

3.1. Bare nouns

Alsagoff and Ho (1998) claim that a CSE noun can be used ambiguously as a mass noun or a count noun. Their claim is intended to capture the following examples.

(8) She queue up very long to buy ticket for us.
‘She queued up for a very long time to buy tickets for us.’ (Alsagoff & Ho 1998:143)

(9) a. Her brother very rich - got four cars!
   b. *Her brother very rich - got four car! (Alsagoff & Ho 1998:143)

Just as English mass nouns can appear bare, the CSE bare noun ticket in (8) can appear bare. Similarly, just as English mass nouns do not have any inherent number information, ticket does not carry any specific number sense either. In addition, when a noun appears in a context in which its mass use is excluded, for instance by the presence of a numeral as in (9), the noun has to be plural-marked. In short, Alsagoff and Ho attribute the ambiguous interpretation of a CSE bare noun to its ability to be used as a mass noun.

One thing to note here is that the ungrammaticality of (9b) is in sharp contrast with our observation that –s is optionally marked to a noun when it is preceded by a numeral. We find (9b) to be perfectly grammatical. Wee and Ansaldo (2003) also report that plural marking is optional when count nouns combine with plural quantifiers. If Wee and Ansaldo’s and our obser-

---

4 As far as we know, Alsagoff and Ho’s (1998) work is the first and only work to make an attempt to explain the ambiguous interpretation of bare nouns.

5 Alsagoff and Ho (1998) also note that four car is found along with four cars in conversation. They say expressions such as four car do not display ‘true characteristics of Singlish, as they are errors, rather than a conscious variation of an informal style.’ However, we could not find any informant who rejects four car.
vations are correct, Alsagoff & Ho’s claim seems hard to maintain. Expressions such as *four car*, which is grammatical to us, show that the nonplural form *car* is used as a count noun. Furthermore, if a nonplural is a count noun in a context like (9), there is no reason to assume that it is used as a mass noun when it appears bare. In fact, if one adopts such an assumption, she would have to explain why an otherwise count noun is used as a mass noun when it appears bare. We adopt the hypothesis, contra Alsagoff and Ho, that CSE count nouns can appear bare.

A brief introduction to some basic semantic assumptions on number is in order before we explain how the ambiguous interpretation of CSE bare nouns obtains. Since Link (1983) and Landman (1989, 1991), it is standard to assume that the domain of quantification has the structure called join semi-lattice, shown below.\(^6\)

![Diagram](image)

The elements \(a, b, c\) at the bottom of the structure are called *atoms* or *singularities*. As the name suggests, they do not have any individual parts smaller than themselves. All the other elements in the structure, i.e. \(a ⊕ b\), \(a ⊕ c\), \(b ⊕ c\), \(a ⊕ b ⊕ c\) are called *sums* or *pluralities*. The singularities \(a, b, c\), constitute the reference of singular nouns such as *John*, *Bill*, or *that girl*, while the pluralities \(\{a ⊕ b, a ⊕ c, b ⊕ c, a ⊕ b ⊕ c\}\) constitute the reference of plural nouns such as *John and Bill* or *those girls*. Nonplural nouns such as *dog* are generally considered to be true of singularities while its plural counterpart *dogs* are true of pluralities, as illustrated below.

\[(11) \quad \begin{align*}
& a. \quad [[\text{dog}]] = \lambda x \ [\text{dog}(x)] \ \{a, b, c\} \\
& b. \quad [[\text{dogs}]] = \lambda x \ [\text{dogs}(x)] \ \{a ⊕ b, a ⊕ c, b ⊕ c, a ⊕ b ⊕ c\}
\end{align*}\]

\(^6\) We keep technical notions to the minimum. For a fuller theory, see Link’s and Landman’s original works. For an easy introduction to plurality, see chapter 2 of Kim 2005.
Suppose there are three *dogs* in the world, a, b, c. Then, our domain of quantification consists of the three singular *dogs* \{a, b, c\} and groups of them \{a ⊕ b, a ⊕ c, b ⊕ c, a ⊕ b ⊕ c\}. Nonplural *dog* ranges over singular entities \{a, b, c\}. As the entities a, b, c are all singular, i.e. atomic, the actual referent of *dog*, whatever it turns out to be, will be one of the three and thus singular. Plural *dogs*, on the other hand, ranges over groups of *dogs* \{a ⊕ b, a ⊕ c, b ⊕ c, a ⊕ b ⊕ c\}. The actual referent of *dogs* will be one of the groups and hence plural.

The standard analysis of plurality just reviewed has been developed mainly based on English. It is designed in such a way that it predicts nonplural nouns to be interpreted as singular. This prediction is, of course, correct in English. However, it oddly requires CSE nonplurals, e.g. *dog*, to be interpreted only as singular, contrary to fact. It does not accommodate the fact that nonplural nouns can be ambiguous between singular and plural in many languages including CSE. In order to get around this problem, we propose, following Rullmann and You (2006) and Kim (2005), that nonplurals denote both singular and plural entities universally. This proposal is depicted in (12).

\[
\begin{align*}
(12) & \quad \text{a. } [\text{[dog]}] = \lambda x [\text{dog}(x)] \\{a, b, c, a ⊕ b, a ⊕ c, b ⊕ c, a ⊕ b ⊕ c\} \\
& \quad \text{b. } [\text{[dogs]}] = \lambda x [\text{dogs}(x)] \\{a ⊕ b, a ⊕ c, b ⊕ c, a ⊕ b ⊕ c\}
\end{align*}
\]

Under this hypothesis, it is straightforward to explain why a CSE nonplural is interpreted ambiguously. The denotation of *dog* in (12a) includes pluralities as well as singularities. Hence, if we pick out a singular entity, say a, from the denotation of *dog*, we get a singular reading. If we pick out a plural entity instead, say b ⊕ c, we get a plural interpretation. This correctly predicts the ambiguous interpretation of a nonplural bare noun in CSE. A reader may have noticed that our hypothesis that all nonplurals across languages have the denotation in (12a) is problematic for English nonplurals, as it does not account for their unambiguous singular interpretation. We will return to this point in section 4 where we compare CSE with English.

In terms of structure, we claim that nonplural bare noun *dog* is dominated by NP, as depicted below.
Number Marking in Colloquial Singapore English

(13)  
NP  
|  
N  
dog  
\{a, b, c, a\oplus b, a\oplus c, b\oplus c, a\oplus b\oplus c\}

Nonplural *dog* can project into an NP without any additional functional projections such as D or NumP.\(^7\) Importantly, however, (13) should not be taken to mean that the nonplural surface form *dog* is always dominated by just NP. What we claim is that if a nonplural surface form *dog* is interpreted ambiguously, it has the structure in (13). We do not exclude the possibility that *dog* can be embedded within some additional functional projection, say, NumP housing the [−pl] feature, which is interpreted as singular. It is not clear to us at this point what empirical consequences our decision to allow a bare noun to be embedded in optionally projected functional categories brings about. Since there appears to be no evidence indicating the equation of a bare noun with NP, we maintain the general hypothesis that a bare noun can be a simple NP or an NP embedded under functional projections. We discuss more about functional projections in the next section.

3.2. Determiner phrases

In this section, we examine how number sense arises in a determiner phrase. Before considering concrete examples, let us spell out our underlying hypotheses regarding the syntactic and semantic properties of a determiner phrase, which will be relevant throughout the discussion to come. We follow Abney (1987), Carstens (1991), and Ritter (1991) in assuming that a determiner phrase is a DP that has an internal structure shown in (14).

\(^7\) Longobardi (1994) advances the view that all nominal arguments obligatorily project DP universally, a stronger version of Abney’s (1987) original DP-Hypothesis. We reject this strong DP-hypothesis. We claim instead that functional projections are optionally projected unless they are forced to do so. This claim will be shown to play a crucial role in correctly predicting the interpretation of number in CSE.
Although we adopt the hierarchical relation between DP, NumP, and NP as depicted in (14), we do not assume that D must select NumP or that Num must select NP. Functional projections in our analysis can always be optional unless they are forced to be projected for an independent reason. There are many conceivable factors that can force them to be projected. For instance, if a lexical determiner is present in a nominal expression, D must be projected to house it. As for Num, if a number feature is generated, it will have to be projected to provide a room for the feature.

NumP is standardly analyzed as the locus where number information is encoded in the form of features, i.e., $[+/-\text{pl}]$. Recently, Adger (2003) and Kim (2005) extend the standard analysis to include D in the domain of categories that encodes number. In their analyses, number features are generated in D as well as in Num, and they are in an agreement relationship via Chomsky’s (1998, 1999) Agree which requires the [pl] features in the two functional categories to have the same value, either + or -. Adopting their analyses, we augment the structure in (14) as in (15).

Adger (2003) and Kim (2005) claim that the number features in Num are interpretable whereas those in D are uninterpretable. We do not adopt this distinction. Rather, we hypothesize that number features are always inter-
pretatable and semantically active, no matter where they appear; the feature
[−pl] has the semantic function of filtering out plural entities from the deno-
tation of its complement, leaving only singular entities, whereas the [+pl]
feature filters out singular entities from the denotation of its complement.
Our hypothesis that the number features in both D and Num are interpre-
table entails that we exploit the feature checking device Agree in a slightly
different sense from the original one. For Chomsky (1998, 1999), Agree
establishes a checking relation between uninterpretable and interpretable
features. As we take the view that the number features in D and Num are
all interpretable, we adopt a weaker version of Agree which is given below.

(16) Agree
Once both D and Num are projected in syntax,
(i) [pl] in D and Num must Agree.
(ii) Agree takes place successfully,
   a. if they have the same value +/− or,
   b. if one of them is unvalued, in which case Agree transmits the
      value of one to the other.

Finally, concerning the morphology of the number features, we will take
it as given that there is some complex morphological algorithm that realizes
them in certain forms in certain contexts. The features, [+pl] and [−pl], are
quite uniformly realized as –s and ∅ under Num. Under D, however, they
are realized in a non-uniform way, their form being largely determined by
what they combine with. When there is no lexical item to combine with,
both of the features are realized as ∅. But, if there is a lexical item in D, the
form of the lexical item is fused with one of the [+/−pl] features to appear
in a particular form. For instance, if the distal demonstrative is generated
along with [+pl] in D, they are fused to yield the morphological form those.
On the other hand, if the demonstrative is fused with [−pl], it is spelt out as
that.

We now turn to the remaining three patterns in (7).

3.2.1. That and those
Reconsider the examples in (5) and (6), reproduced here as (17) and (18),
respectively, which led us to the generalization in (7d): plural marking on nouns preceded by *those is optional, whereas plural marking on nouns preceded by *that is not allowed.

(17) John saw *those dog(s) yesterday. (PL)
(18) John saw that dog(*s) yesterday. (SG)

The optional plural marking on nouns preceded by *those is predicted by the mechanisms laid out at the beginning of section 3.2. The presence of *those in a determiner phrase indicates two things; (i) D is projected to house the lexical demonstrative and (ii) the value for [pl] in D is +. There is nothing, however, that forces the projection of NumP, as functional projections are optionally projected unless they are forced to be so. Therefore, depending on the projection of NumP, two structures are predicted to be available for a nominal expression of the form *those+noun.

(19) a. 

\[
\text{DP} \quad \text{NumP} \\
\text{D} \quad \text{Num} \quad \text{NP} \\
\text{those} \quad [+\text{pl}] \quad \text{dog} \\
\text{Agree} \\
\text{Spell-Out form: those dogs}
\]

b. 

\[
\text{DP} \quad \text{NumP} \\
\text{D} \quad \text{Num} \quad \text{NP} \\
\text{those} \quad [+\text{pl}] \quad \text{dog} \\
\text{[−pl]} \\
\text{*Agree} \\
\text{Spell-Out form: those dog}
\]

c. 

\[
\text{DP} \\
\text{D} \quad \text{NP} \\
\text{those} \quad \text{dog} \\
\text{[+pl]} \\
\text{Spell-Out form: those dog}
\]

As shown in (19), NumP, as a functional projection, is optionally projected. When it is projected, in (19a) and (19b), the value for [pl] in Num
has to match that of [pl] in D via Agree. The structure in (19b) is excluded by the unsuccessful application of Agree because of the mismatch between D and Num in the value of [pl]. The structures in (19a) and (19c) are well-formed. In (19a), Agree takes place successfully between D and Num since [pl] has the same value +. In (19c), Agree does not apply since there is no NumP. The two well-formed structures spell out as those dogs and those dog, respectively. Both of them are interpreted as plural, because [+pl] eliminates the singular entities from the denotation of dog. This accounts for the first half of the pattern in (7d), which is exemplified in (17).

The second half of the pattern in (7d) is explained in a similar fashion. That appearing in a determiner phrase tells us that (i) D is projected and (ii) the value for [pl] in D is −. Again, two structures are available for the sequence that+noun.

The structure in (20b), which would be spelt out as that dogs, is filtered out due to the conflicting values of [pl] in D and Num. This accounts for the incompatibility of that with dogs in (18). The structures in (20a) and (20c) are legitimate; Agree takes place successfully in (20a) and Agree doesn’t
play any role in (20c). They are both spelt out as *that dog* and interpreted as singular since \([-pl]\) eliminates the plural entities from the denotation of *dog*.

To summarize, plural marking is optional in *those dog(s)* because of optional projection of NumP. \([+pl]\) carried by *those* ensures that the phrase is interpreted as plural. On the other hand, *that dogs* is ungrammatical due to the number mismatch between *that* and \(-s\).

### 3.2.2. **The and dis**

Let us now move on to the pattern in (7b): number marking is obligatory when CSE nouns appear in DPs headed by *the/dis*. Examples illustrating the pattern are repeated in (21).

\[(21)\]
- a. John saw the/dis dog yesterday. (SG)
- b. John saw the/dis dogs yesterday. (PL)

We showed in the previous subsection how optional projection of NumP captures optional plural marking on nouns preceded by *those*, as in *those dog(s)*. In our analysis, the presence or absence of \(-s\) reflects the presence or absence of NumP with \([+pl]\). Optional projection of NumP, however, creates a problem for determiner phrases involving *the* and *dis*. Nothing we have said so far prevents us from generating the following two structures which lack NumP.

\[(22)\]
- a. DP
  - D
  - NP
  - the/dis
  - dog
  - \([-pl]\)
  - Spell-Out form: *the/dis dog* (SG)
- b. DP
  - D
  - NP
  - the/dis
  - dog
  - \([+pl]\)
  - Spell-Out form: *the/dis dog* (PL)

*The* and *dis* are different from the distal demonstrative in that number is not overtly reflected on their forms. One way to interpret their invariability is that they are compatible with both \([+pl]\) and \([-pl]\) features. In other words, both *the/dis* with \([+pl]\) and *the/dis* with \([-pl]\) are morphologically spelt out as the same form, as illustrated in (22). (22a) is interpreted as sin-
gular as [−pl] removes the plural entities from the denotation of *dog*. (22b), on the other hand, is interpreted as plural due to [+pl]. As the two structures have the same morphological spell-out form, *the/dis dog* is predicted to be ambiguous between singular and plural readings. This prediction is wrong.

Notice that the plural meaning intended by (22b) can be expressed in a way that would not be ambiguous at all. This would involve using the spell-out form in (23).

\[ (23) \]
\[
\text{DP} \\
\text{D} \quad \text{NumP} \\
\text{the/dis} \quad \text{Num} \quad \text{NP} \\
[+pl] \quad [+pl] \quad \text{dog} \\
\text{Agree}
\]

Spell-Out form: *the/dis dogs*

The DP containing NumP with [+pl] in (23) conveys the same meaning as (22b). The only difference between them is the presence or absence of $-s$. If we can find a way to use (23) to block (22b), the problem created by (22b) for our analysis can be eliminated. We propose the following principle that does this job, which describes a competition between different forms with the same meaning and the outcome of the competition.

\[ (24) \] Avoid Ambiguity Principle (AAP)

If two forms $\alpha$ and $\beta$ have exactly the same meaning and one of the forms, say $\alpha$, has the same form as another expression $\gamma$ which has a different meaning, use $\beta$.

What the Avoid Ambiguity Principle says basically is that whenever there is more than one form in a language that has the same meaning, use the form that does not lead to ambiguity.

Here is how the AAP blocks the problematic (22b). The two spell-out forms in (22b) and (23) have the same meaning. This makes *the/dis dog*
(PL) α and the/dis dogs (PL) β. The form the/dis dog (SG) in (22a) has the same form as a the/dis dog (PL) but has a different meaning from it, which makes it γ. Out of the two forms, α in (22b) and β in (23) which have the same meaning, α leads to ambiguity as it has the same form as γ in (22a). Thus, the AAP kicks in and rules out α in (22b). The elimination yields two results; (i) the/dis dog is always interpreted as singular and (ii) the/dis dogs is the only legitimate form with plural interpretation. In other words, number marking is obligatory in the context of the/dis.

As a way of summarizing our discussion in this section, let us consider all the logically possible representations that the sequence the/dis+noun can have and show briefly how our analysis eliminates illegal representations (and forms).

(25) a.          DP                           b.                   *DP
              D                       D                       NumP
                   NP                     NP
        the/dis                   the/dis
             [−pl]                  [−pl]                  Num
                   dog                  dog
         Spell-Out form: the/dis dog (SG)   Spell-Out form: the/dis dog (PL)

c.    DP                           d.                   DP
       D                       D                       NumP
           NP                     NumP
       the/dis                   the/dis
           [−pl]                  [−pl]                  Num
           dog                  dog
         Spell-Out form: the/dis dog (PL)   Spell-Out form: the/dis dog (SG)

e.           *DP                           f.                *DP
             D                       D                       NumP
                  NumP                 NumP
       the/dis                   the/dis
           [−pl]                  [−pl]                  Num
           dog                  dog
         Spell-Out form: the/dis dog       Spell-Out form: the/dis dog
The six logically possible structures that the/\textit{dis}+noun can have are given in (25). In syntax, \textit{Agree} rules out (25e) and (25f) as the features have conflicting values. Assuming that the AAP applies after the syntactic component, at some level of representation where morphological forms of the same or similar meanings are compared, (25c) in conjunction with (25a) blocks (25b). The three forms in (25a), (25c), and (25d) are legitimate. (25a) and (25d) happen to have the same morphological form \textit{the/\textit{dis} dog} and they are both interpreted as singular. There is no constraint to rule out one or the other. Notice that either (25a) or (25d) is not affected by the AAP, because they have the same form as well as the same meaning. In order for the principle to apply, they need to be in different forms. The form in (25c), \textit{the/\textit{dis} dogs}, is interpreted as plural.

### 3.2.3. Determiner phrases with numerals

Let us now consider the last pattern in (7c): when there is a plural expression (e.g. a numeral) in a nominal expression, plural marking becomes optional regardless of the presence of \textit{the/\textit{dis}}. Reconsider the relevant example given (26).

(26) John saw the/\textit{dis} three dog(s).

Optional plural marking in the context of a numeral appears to be surprising, especially given the fact that plural marking is obligatory without the numeral. This surprising fact, however, is what is precisely predicted by our analysis. \textit{The/\textit{dis} three dog(s)} in (26) is analyzed along the same line as we analyzed \textit{those dog(s)}.

Following Cheng and Sybesma (1999) and others, we assume that numerals project NumeralP. We further assume that it is projected below DP but above NumP as numerals follow determiners but precede all the other elements in nominals in sequential order. Under this assumption, four structures are logically available for \textit{the/\textit{dis}+numeral+noun} sequence.\footnote{There are two other logically possible structures: \textit{the/\textit{dis} [+pl]-three-Num[−pl]-dog} and \textit{the/\textit{dis} [−pl]-three-Num [+pl]-dog}. These two structures are eliminated in syntax since they violate the feature matching condition on [pl] between D and Num. We do not illustrate these structures in the text due to space limitations.}
Of the four structures in (27), two of them are ungrammatical; (27a) and (27d). In (27a), \( \text{dog} \) ranges over singularities and pluralities, e.g. \{a, b, c, a⊕b, a⊕c, b⊕c, a⊕b⊕c\}. The function of numeral \( \text{three} \) is to pick out from this set the elements that have three atoms in them. There is only one member in the set that has three atoms, namely, \( a⊕b⊕c \). The denotation of NumP is thus \{a⊕b⊕c\}. The determiners the/dis with [−pl] in turn take this denotation as their argument and remove plural entities from it. Since \( a⊕b⊕c \) is a plural entity, it is removed and therefore the whole DP ends up denoting an empty set. This means that the phrase in (27a) does not mean (denote) anything. A DP that does not mean anything is uninterpretable and hence ungrammatical. (27d) is ruled out in a similar fashion. [−pl] in Num filters out plural entities from the denotation of \( \text{dog} \). This means that at the level of NumP, only singular entities, \{a, b, c\}, are available. The function of \( \text{three} \) is to pick out a plural entity that has three atoms from its complement NumP. But, NumP does not contain any plural entities. As such, the derivation fails.

(27b) and (27c), which are spelt out as the/dis three dog and the/dis
three dogs respectively, are grammatical. Let us take (27c) for illustration. Numeral three combines with dog and yields the denotation, \{a ⊕ b ⊕ c\}, because it selects a member with three atoms. [+pl] in the checks the denotation of three dog \{a ⊕ b ⊕ c\} and filters out a singular entity, if there is any. There is no singular entity. Hence, it passes the denotation of three dog up to the next higher node. As a consequence, the three dog means something like ‘the unique plural dog in the context that has three members in it.’ This is exactly the meaning of the phrase. (27b) can be explained along the similar line. Notice also that at the level of representation where morphological competition occurs, there are only two structures that survived, the ones in (27b) and (27c). The Avoid Ambiguity Principle has no role to play in this case.

To summarize, plural marking becomes optional in a numeral context, because the AAP does not take any effect. The potential candidates to trigger the principle are not available at the level of representation where morphological competition occurs, as the candidates are all semantically ill-formed and therefore removed.

4. English goes to Singapore

So far, we have concentrated on how number sense arises in CSE nominal expressions. In the process, little attention has been paid to English. In this section, we compare English and CSE number marking systems and examine their similarities and differences. The comparison will lead to a concrete proposal as to how English assimilated to East Asian mould. The title of this section is the same as that of Gil’s (2003) first section. We borrowed it with the belief that we can provide details to Gil’s story about how English adapted to Singapore.

We examined in the previous sections that plural marking is largely optional in CSE and, as a consequence, there is no transparent relationship between number and morphology. English is different from CSE. Plural marking is always required to refer to a plural entity.

(28) a. John saw the dog.
    b. John saw the dogs.
c. John saw the three dogs.

Nonplurals are always interpreted as singular, as shown in (28a). Plural marking is, therefore, obligatory, as in (28b). Even the presence of numeral *three* in (28c) does not allow –s to go optional. This obligatory number marking pattern in English stands in clear contrast with that of CSE, which is only partially obligatory. Where does this difference come from? To answer this question, we need to have a theory of the English number marking which will eventually enable us to locate the source(s) that brings about the surface differences between the two languages. There are many theories about English number marking in the literature. Not all of them, however, are compatible with what we have claimed about CSE number marking in this paper. We find that Kim’s (2005) theory of number is particularly useful and suitable for our purposes. We adopt and introduce his theory below.

According to Kim (2005), the obligatory nature of English number marking derives from two sources: (i) English is a D-language and thus projects D obligatorily and (ii) the number feature in D is unvalued. To show how his analysis works, let us consider the structure of the object DP, *the three dogs*, in (28c).

(29) \[
\text{DP} \\
\text{D} \quad \text{NumeralP} \\
\text{the} \quad \text{Numeral} \quad \text{NumP} \\
[\alpha_{\text{pl}}] \quad \text{three} \quad \text{Num} \quad \text{NP} \\
\quad \quad [+\text{pl}/-\text{pl}] \quad \text{dog}
\]

Kim parameterizes languages into two groups based on the projection of D.

(30) **D-Parameter**

a. D-languages: D is always projected.
b. Non-D-languages: D is optionally projected unless it is forced to be so.

English belongs to the first group: D-languages. This parameter setting forces category D to be projected at all times. In (29), lexical determiner the occupies the D slot. Even if there is no overt lexical determiner in a nominal expression, D is always projected in English. In this case, there must be a null D. Another important relevant property of English is that its determiners, null or lexical, enter syntax without any value for [pl], as indicated by α in (29). An unvalued number feature must be valued by a valued number feature. Otherwise, it would not receive proper interpretation in the semantic component. In order to provide a value for [αpl] in D, NumP which has +/− value for [pl] is projected and transmits its value to [αpl] in D via Agree. In short, in obligatory D-languages such as English, D is always projected with [αpl], which in turn forces the projection of NumP which provides a suitable value for [αpl]. As NumP is always projected in English, the transparent one-to-one relationship between morphology and number is guaranteed. For instance, in (29), NumP is projected to provide a value for [αpl], [−pl] in Num is not compatible with numeral three in their meanings and thus ruled out. [+pl] in Num is compatible with three and transmits its plus value to [αpl] in D. The whole phrase is spelt out correctly as the three dogs. Plural marking is obligatory even in the context of numerals in English due to the obligatory projection of D and the nature of [pl] in D.

Combining our analysis of CSE number marking with Kim’s analysis of English number marking enables us to see that the two languages differ in two respects, which is summarized in (31).

(31) (i) English always projects D, whereas CSE does so optionally.
(ii) English D comes with unvalued [αpl], whereas CSE D comes with a specified value [+/-pl], when projected.

These two differences lead to their surface differences in number marking. In English, D is always projected by (31i). The unvalued number feature [αpl] in D in turn forces NumP to be projected because its value needs to be supplied by [+/-pl] in Num. As NumP is always projected in English,
number marking is obligatory. [+pl] in Num is realized as –s and [−pl] in Num is realized as a zero morpheme. This means that plurals are interpreted as plural and nonplurals are interpreted as singular. There are no DPs in English that do not contain NumPs. As all DPs contain NumPs, there is no room for the AAP to apply. No potential ambiguity arises in English nominal expressions.

In CSE, nothing forces NumP to be projected since D, when projected, comes with a specific value. As NumP (including D) is optionally projected, number marking is optional. When there is a plural element in a nominal (e.g. those boy(s) and the three dog(s)), there is no corresponding singular expression with the same form to block the nonplural marked version of the nominal (e.g. those boy and the three dog). However, when there is no plural element in a DP, as in the boy, the plural version of the [+pl] boy (without NumP) is compared with another form of the same meaning, the [+pl] boys [+pl] as well as the singular version of the [-pl] boy [-pl] and blocked by the AAP to avoid ambiguity. This gives rise to the empirical consequence that number marking is obligatory in the context of the/dis.

Given the two differences between English and CSE in (31), we can now make a concrete proposal regarding how English assimilated to East Asian mould when it came to Singapore. Our proposal is given in (32).

(32) When English came to Singapore, it changed its D-parameter setting from D-language to Non-D-language. Concomitantly, the nature of [pl] in D shifted from unvalued to valued.

There is no doubt that this parameter resetting must have been triggered by the influence of the indigenous languages in Singapore at the time of the arrival of English. We do not know how exactly this parameter resetting occurred and why the resetting should have been this way among many conceivable alternative scenarios. We will have to leave these questions as open issues.

5. Conclusion

In this paper, we examined number marking patterns of CSE nominal
expressions. Four patterns were shown to exist, supporting what Gil (2003) observed in his pioneering work on CSE number. The most intriguing property of CSE number marking is that plural marking is only partially obligatory; −s can be optionally attached to bare nouns and determiner phrases with plural elements, but it is obligatory in the/dis+noun sequence. We argued that the optional but not-so-optional nature of plural marking in CSE follows from the interaction of the Avoid Ambiguity Principle and the three properties of CSE nominals — (i) the denotation of nouns includes both singularities and pluralities, (ii) CSE is a non-D-language and thus optionally projects D with [+/-pl], and (iii) NumP with [+/-pl] projects optionally. The three properties of CSE nominals are what makes CSE number marking optional. In cases where optional number marking leads to ambiguous representations with conflicting number interpretations, the Avoid Ambiguity Principle removes the ambiguity by removing the representation that creates the ambiguity. This is what makes CSE number marking not-so-optional. On the surface, English looks very different from CSE in number marking. We claimed, however, that what looks like a big difference on the surface can be reduced to a small underlying difference between the two languages. English D obligatorily projects and comes with unvalued [αpl]. When English came to Singapore, English D transformed into an optional D with valued [+/-pl] feature.

References


