1. Paper title: Singlish Number Marking is not random

2. Sub-field: Syntax/semantics interface

3. Name(s) of author(s):
   Chonghyuck Kim
   Chang Qizhong
   Lee, Leslie

4. Affiliation(s) of author(s):
   National University of Singapore

5. Email addresses of the authors:
   Chonghyuck Kim: ellkc@nus.edu.sg
   Chang Qizhong: u0305242@nus.edu.sg
   Lee, Leslie: leslielee@nus.edu.sg

6. Designated email correspondent:
   Chonghyuck Kim: ellkc@nus.edu.sg
SINGLISH NUMBER MARKING IS NOT RANDOM

INTRODUCTION: Number marking in Singapore English (Singlish) has been described as ‘optional’, ‘random’ or ‘sporadic’. We show, confirming Gil’s (2003) observation, that Singlish number marking is not randomly optional but systematic. This paper compares Singlish and English number marking patterns, proposes one parameter and one principle, and claims that their differences fall out from the proposals.

DATA: A Singlish bare nonplural noun is interpreted as singular or plural; plural marking is optional [(1)]. Nonplural nouns are, however, unambiguously interpreted as singular with D-elements: determiner the and demonstrative this [(2)] (no distinction between this and these in Singlish). Plural morpheme -s is required here for plural interpretation [(3)]. Number marking is obligatory in (2-3). However, for D-elements with distinct nonplural and plural forms, e.g. that and those, Singlish and English diverge: while that is only compatible with nonplural nouns inducing singular interpretation [(4a)], those is compatible with both nonplural and plural nouns, inducing plural interpretation [(4b)]; -s goes optional with those. A similar pattern is observed even with the D-elements the/this and numerals [(5)]. (4-5) contrast with English, where plural marking is obligatory.

PREREQUISITE HYPOTHESES ON SEMANTICS AND SYNTAX: A noun ranges over both singular and plural entities [(6)] (Sauerland, 2003). Languages are divided into two types: D-languages and non-D-languages [(7)] (Kim, 2005). A full DP has the structure in (8).

PROPOSALS: We make two proposals: Agreement Parameter [(9)] and Avoid Ambiguity Principle [(10)].

ANALYSIS: (6) and (7b) together account for Fact 1. (7b) allows the option of not projecting D or NumP in Singlish [(11)], giving Singlish bare nonplurals a number-neutral interpretation. When D is forced to be projected by a lexical item in Singlish, it can dominate a NumP [(12)]. If [±pl] in Num is valued as + [(12a)], the NP is spelled out as plural ‘the dogs’. If [±pl] agrees with [−pl] [(12b)], the NP is spelled out as singular “the dog”. If nothing forces the projection of NumP, D can directly dominate NP [(12c-12d)], producing spellout forms singular the dog [(12c)] and the predicted plural the dog [(12d)]. However, since the form in (12d) is the same as that of (12b), AND the meaning intended by (12d) can be expressed by (12a), (12d) is blocked by Avoid Ambiguity Principle. Avoid Ambiguity Principle, however, does not apply to that and those. In (13a-d), plural DPs have different forms from singular DPs. Structure (13c) correctly accounts for the optionality of -s with those. The same explanation can be extended to (5). Unlike Singlish, English always projects D [(7a)], shown in (14). The number feature in D has to agree with and be valued by that in Num. Thus, NumP is always projected in English, accounting for obligatory number marking in English.

Conclusion: The description of Singlish number marking as random is misleading: Singlish exhibits a systematic number marking pattern, distinct from English. The differences between the two languages are shown to fall out from the two proposals, Agreement Parameter and Avoid Ambiguity Principle, in conjunction with other standard hypotheses.
**FACT 1**
1. John saw dog yesterday. [one or more dogs]

**FACT 2**
2. John saw the/this dog yesterday. [one dog/\*more than one dog]
3. John saw the/this dogs yesterday. [one dog/\*more than one dog]

**FACT 3**
4. a. John saw that dog(s) yesterday. [\*one dog/\*more than one dog]
   b. John saw those dog(s) yesterday. [\*one dog/\*more than one dog]
5. John saw the/this two dog(s) yesterday. [*one dog/\*more than one dog]

**Hypothesis 1: Nominal Denotation**
6. \[\text{[dog]} = \{a, b, c, a \oplus b, a \oplus c, a \oplus b \oplus c\}\]

**Hypothesis 2: Two Types of Languages**
7. a. D-languages: D is always projected (English)
   b. Non-D-languages: D is not projected unless it is forced to be projected by an overt lexical item (Singlish)

**Hypothesis 3: Structure of DP**
8. \(\begin{tikzpicture}
    \node (DP) {DP};
    \node (NumP) [below of=DP] {NumP};
    \node (Spec) [left of=NumP] {Spec};
    \node (Num) [right of=Spec] {Num \([+pl]\)};
    \node (Num') [right of=Num] {Num \([-pl]\)};
    \node (NP) [below of=Num] {NP};
    \node (dog) [below of=N] {dog};
    \path (DP) -- (Spec) node [midway, left] {THE};
    \path (Spec) -- (Num) node [midway, left] {\([+pl]\)};
    \path (Num) -- (NP) node [midway, left] {\([\alpha_{pl}]\)};
    \path (Num) -- (dog) node [midway, left] {\([-pl]\)};
    \draw (Spec) -- (Num') node [midway, left] {\([-pl]\)};
    \draw (Num') -- (NP) node [midway, left] {\([+pl]\)};
    \draw (NP) -- (dog) node [midway, left] {Agree};
\end{tikzpicture}\)

**Proposal 1:**
9. **Agreement Parameter**
   - **Singlish:** The number feature under Num enters the derivation with an unvalued number feature \([\alpha_{pl}]\), whose value has to be provided by agreeing with a valued number feature in D.
   - **English:** D comes with an unvalued number feature, whereas Num comes with a valued number feature.

**Proposal 2:**
10. **Avoid Ambiguity Principle:** If two forms \(\alpha\) and \(\beta\) have exactly the same meaning and one of the form, say \(\alpha\), has the same form as other expression \(\gamma\) which has a different meaning, use \(\beta\).

11. \(\begin{align*}
    &\text{NP} \\
    &\big| \\
    &\text{dog} \{a, b, c, a \oplus b, a \oplus c, a \oplus b \oplus c\}
\end{align*}\)
12. **Spellout Forms:** (a) the dogs, (b) the dog, (c) the dog, (d) the dog

(a) \(\begin{tikzpicture}
    \node (DP) {DP};
    \node (NumP) [below of=DP] {NumP};
    \node (THE) [left of=NumP] {THE};
    \node (Num) [below of=THE] {Num \([+pl]\)};
    \node (NP) [below of=Num] {NP};
    \node (dog) [below of=N] {dog};
    \path (DP) -- (THE) node [midway, left] {\([+pl]\)};
    \path (THE) -- (Num) node [midway, left] {\([\alpha_{pl}]\)};
    \path (Num) -- (NP) node [midway, left] {\([-pl]\)};
    \path (NP) -- (dog) node [midway, left] {Agree};
\end{tikzpicture}\)

(b) \(\begin{tikzpicture}
    \node (DP) {DP};
    \node (NumP) [below of=DP] {NumP};
    \node (THE) [left of=NumP] {THE};
    \node (Num) [below of=THE] {Num \([-pl]\)};
    \node (NP) [below of=Num] {NP};
    \node (dog) [below of=N] {dog};
    \path (DP) -- (THE) node [midway, left] {\([-pl]\)};
    \path (THE) -- (Num) node [midway, left] {\([\alpha_{pl}]\)};
    \path (Num) -- (NP) node [midway, left] {\([+pl]\)};
    \path (NP) -- (dog) node [midway, left] {Agree};
\end{tikzpicture}\)

(c) \(\begin{tikzpicture}
    \node (DP) {DP};
    \node (NumP) [below of=DP] {NumP};
    \node (THE) [left of=NumP] {THE};
    \node (Num) [below of=THE] {Num \([-pl]\)};
    \node (NP) [below of=Num] {NP};
    \node (dog) [below of=N] {dog};
    \path (DP) -- (THE) node [midway, left] {\([+pl]\)};
    \path (THE) -- (Num) node [midway, left] {\([-pl]\)};
    \path (Num) -- (NP) node [midway, left] {\([-pl]\)};
    \path (NP) -- (dog) node [midway, left] {Agree};
\end{tikzpicture}\)

(d) \(\begin{tikzpicture}
    \node (DP) {DP};
    \node (NumP) [below of=DP] {NumP};
    \node (THE) [left of=NumP] {THE};
    \node (Num) [below of=THE] {Num \([+pl]\)};
    \node (NP) [below of=Num] {NP};
    \node (dog) [below of=N] {dog};
    \path (DP) -- (THE) node [midway, left] {\([-pl]\)};
    \path (THE) -- (Num) node [midway, left] {\([\alpha_{pl}]\)};
    \path (Num) -- (NP) node [midway, left] {\([-pl]\)};
    \path (NP) -- (dog) node [midway, left] {Agree};
\end{tikzpicture}\)

13. **Spellout Forms:** (a) those dogs, (b) that dog, (c) those dog, (d) that dog

(a) \(\begin{tikzpicture}
    \node (DP) {DP};
    \node (NumP) [below of=DP] {NumP};
    \node (THE) [left of=NumP] {THE};
    \node (Num) [below of=THE] {Num \([+pl]\)};
    \node (NP) [below of=Num] {NP};
    \node (dog) [below of=N] {dog};
    \path (DP) -- (THE) node [midway, left] {\([+pl]\)};
    \path (THE) -- (Num) node [midway, left] {\([\alpha_{pl}]\)};
    \path (Num) -- (NP) node [midway, left] {\([-pl]\)};
    \path (NP) -- (dog) node [midway, left] {Agree};
\end{tikzpicture}\)

(b) \(\begin{tikzpicture}
    \node (DP) {DP};
    \node (NumP) [below of=DP] {NumP};
    \node (THE) [left of=NumP] {THE};
    \node (Num) [below of=THE] {Num \([-pl]\)};
    \node (NP) [below of=Num] {NP};
    \node (dog) [below of=N] {dog};
    \path (DP) -- (THE) node [midway, left] {\([-pl]\)};
    \path (THE) -- (Num) node [midway, left] {\([\alpha_{pl}]\)};
    \path (Num) -- (NP) node [midway, left] {\([+pl]\)};
    \path (NP) -- (dog) node [midway, left] {Agree};
\end{tikzpicture}\)

(c) \(\begin{tikzpicture}
    \node (DP) {DP};
    \node (NumP) [below of=DP] {NumP};
    \node (THE) [left of=NumP] {THE};
    \node (Num) [below of=THE] {Num \([+pl]\)};
    \node (NP) [below of=Num] {NP};
    \node (dog) [below of=N] {dog};
    \path (DP) -- (THE) node [midway, left] {\([-pl]\)};
    \path (THE) -- (Num) node [midway, left] {\([\alpha_{pl}]\)};
    \path (Num) -- (NP) node [midway, left] {\([+pl]\)};
    \path (NP) -- (dog) node [midway, left] {Agree};
\end{tikzpicture}\)

(d) \(\begin{tikzpicture}
    \node (DP) {DP};
    \node (NumP) [below of=DP] {NumP};
    \node (THE) [left of=NumP] {THE};
    \node (Num) [below of=THE] {Num \([-pl]\)};
    \node (NP) [below of=Num] {NP};
    \node (dog) [below of=N] {dog};
    \path (DP) -- (THE) node [midway, left] {\([+pl]\)};
    \path (THE) -- (Num) node [midway, left] {\([\alpha_{pl}]\)};
    \path (Num) -- (NP) node [midway, left] {\([-pl]\)};
    \path (NP) -- (dog) node [midway, left] {Agree};
\end{tikzpicture}\)