The syntax and semantics of the Tagalog plural marker *mga*

**EMPIRICAL GENERALIZATIONS** The Tagalog plural marker *mga* has been described as combining with expressions that belong to different syntactic categories (Schachter & Otañes 1972, Wolff et al. 1991, Corbett 2000). For example, *mga* can combine with expressions, bracketed below, that can be translated into English as nouns (‘dog’ in (1a)), verbs (‘will eat’ in (1b)), adjectives (‘beautiful’ in (1c)), and PPs (‘for you’ in (1d)):

(1a)  *Mga* [aso] *sila*  ‘They are dogs.’
       PL  dog  3pl.DIR (DIR=direct case)

(1b)  *Mga* [kakain] *sila*  ‘They are ones who will eat.’
       PL  eat.AV.CONT 3pl.DIR (AV=agent voice; CONT=contemplated aspect)

(1c)  *Mga* [maganda] *sila*.  ‘They are beauties.’
       PL  beautiful 3pl.DIR

(1d)  *Mga* [para sa iyo] *sila*  ‘They are for you.’
       PL  for  OBL 2sg.OBL 3pl.DIR (OBL=oblique case)

*Mga* can combine with these expressions regardless of whether they occur as predicates (as in (1a-d) above) or as case-marked arguments (as in (1e) below):

       saw 3pl.IND  DIR  PL  dog / eat.AV.CONT / beautiful / for  OBL 2sg.OBL
       ‘They saw the dogs / ones who will eat / beauties / ones for you.’ (IND=indirect case)

**RESEARCH QUESTIONS** The apparent ability of *mga* to combine with expressions of different syntactic categories makes it quite different from plural markers such as the English -s, which applies only to nouns. Does *mga* indeed combine with expressions belonging to different syntactic categories? If so, how does *mga* work semantically – what does it mean for *mga* to pluralize a verb, or an adjective, or a prepositional phrase?

**PROPOSAL** I present a formal analysis of the distribution and meaning of *mga* using a categorial grammar framework. I analyze *mga* syntactically as a modifier of predicatives: it combines with a predicative to form another predicative. A *predicative* is an expression that combines with an argument marked for direct case (DIR) to form a sentence – it is of the category S/DIR. All of the bracketed expressions in (1) above are predicatives because they each can combine with a direct case-marked argument to form a sentence. For example, the derivation below illustrates how the predicative *aso* ‘dog’ can combine with the direct case-marked pronoun *sila* ‘they’ through forward function application (FFA) to form the sentence *aso sila* ‘they are dogs’:

\[
\frac{aso \ ‘dog’: \ S/DIR}{aso \ sila \ ‘they’: \ DIR} \quad FFA
\]

*Mga* combines with a predicative expression to yield another predicative expression that combines with a direct-case marked argument to form a sentence. Thus *mga* is of the category (S/DIR)/(S/DIR). In the derivation below, *mga* first combines with the predicative *aso* ‘dog’ to form another predicative *mga aso* ‘dogs’. The predicative *mga aso* ‘dogs’ then combines with the direct case-marked pronoun *sila* ‘they’ to form the sentence *mga aso sila* ‘they are dogs’:

\[
\frac{mga: \ (S/DIR)/(S/DIR) \quad aso \ ‘dog’: \ S/DIR}{mga \ aso \ ‘dogs’: \ S/DIR \quad FFA} \quad \frac{sila \ ‘they’: \ DIR}{sila \ ‘they’: \ DIR \quad FFA}
\]

\[
\frac{mga \ aso \ sila \ ‘they are dogs’: \ S}{mga \ aso \ sila \ ‘they are dogs’: \ S \quad FFA}
\]
Semantically, *mga* is a function that takes a predicative of type <et> and yields a pluralized predicative of type <et>. As noted in Schachter & Otanes (1972), Kolmer (1998), and Corbett (2000), expressions such as those bracketed in (1) are unspecified for number. For example, in (2) below, which is taken from Schachter & Otanes (1972: 111), *libro* can be used to refer to a single book or to a pile of books:

(2) Nasa mesa ang *libro.*

The book(s) is/are on the table.'

My examples (3) and (4) below further show that predicatives are unspecified for number. (3) and (4) can be acceptably uttered in a context where there is only one book, as well as in a context where there is more than one book:

(3) Bumili ako ng *libro.*

*I bought a book/books.'

(4) Naglagay ako ng bookmark sa *libro.*

*I put a bookmark/bookmarks in a book/books.'

Since predicatives are unspecified for number, their denotations must contain both singular and plural members. To formally represent this kind of denotation, I make use of Link’s (1983) analysis of plurality. In Link’s system, plural individuals can be formed from atomic or from plural individuals by means of the individual sum (*i*-sum) operation $\oplus$. The *i*-sum operation takes two individuals and yields their *i*-sum, which is a plural individual of the same type as the two individuals that comprise it. When *mga* combines with a predicative expression, it forms a pluralized predicative whose denotation contains only plural individuals. There are therefore no longer any atomic individuals in the denotation of a pluralized predicative. To formalize the meaning of *mga*, I make use of Link’s *proper plural operator* $\odot$, which yields only the non-atomic individuals in the denotation of the predicative expression it is applied to. Semantically, *mga* acts as this proper plural operator: when *mga* combines with a predicative expression, it yields a predicative whose denotation contains only plural individuals.

My analysis of *mga* as being of the syntactic category (S/DIR)/(S/DIR) and the semantic type <et, et> can account for why *mga* cannot combine with, for example, indirect case-marked expressions such as *ng libro*, as shown in (4a) below:

(4a) * Bumili ako *mga* ng *libro.*

*I bought books.'

(4b) Bumili ako *ng* *mga* *libro.*

*I bought books.'

Syntactically, *ng libro* is not of category S/DIR, and semantically it is a generalized quantifier of type <et, t>. Since *mga* can only combine syntactically with predicatives and semantically with expressions of type <et>, it follows that *mga* cannot combine with the expression *ng libro*. In contrast, *mga* can combine with *libro* in (4b), since *libro* is a predicative (of category S/DIR) and is of type <et>.

The formal analysis outlined above therefore pertains not only to the syntax and semantics of *mga* itself, but also to that of predicatives and case-marked expressions in Tagalog, which *mga* interacts with.