A Compositional Approach to M-possessives: A view from Bangla

Keywords Semantics, M-possessives, Bangla, genericity

Introduction Bangla, like English, presents two types of possessives: R(egular)-possessive, in (1), and M(odificational)-possessives, in (2) (cf. Munn 1995).

(1) Ruma-r juto  Ruma-gen shoes 'Ruma’s shoe’ (def. or indef.)
(2) chele-de-r juto  boy-de-gen shoe 'men’s shoe’ (def. or indef.)

Both possessives have the semantic type of simple nouns in the language, i.e., they are predicates of type <e,t>, as they function as restrictors of quantifiers, occur in predicate position of copular sentences and receive an indefinite or a definite reading in argument position. However they differ significantly in their internal structure and interpretation.

This paper proposes that the distinctive property of M-possessives as opposed to R-possessives is that the relation M-possessives internally expresses (denoted by -r) holds generically between its two arguments; in R-possessives, on the other hand, it expresses an ‘episodic’ relation.

The Proposal: The non-head noun (the possessor) in R-possessives is a referential expression. This allows for a relatively straightforward compositional analysis. The genitive marker denotes a context dependent relation between individuals (see Partee 1983, and Barker 1995). This relation, combined with its individual argument (e.g. Ruma) results in the predicate true of individuals that are in that relation with Ruma. This predicate combines with the predicate denoted by the head noun (e.g. shoe) to form the complex predicate true of shoes that are in the contextually provided relation with Ruma. The formal details are below (c.f. Partee 1983):

(3) \[|r_1|^g = g(1)_{<e,t>}\]
(4) \[|Ruma-r|^g = \lambda y. \ g(1) \ \text{holds of} \ Ruma \ \text{and} \ y\]
(5) \[|Ruma-r juto|^g = \lambda y. \ y \ \text{is a shoe and} \ g(1) \ \text{holds of} \ Ruma \ \text{and} \ y\]

When g(1) is a possessive relation the interpretation is that of a predicate true of shoes that belong to Ruma (see Barker 1995).

Whereas for R-possessives a relatively standard analysis is available, a semantic approach to M-possessives presents two challenges. The first challenge is regarding local semantic compositionality: the overt argument of the genitive relation is not an individual denoting expression. The second challenge is the generic/modal like interpretation of these genitives: chele-de-r juto is a predicate true of shoes that MEN, rather than women or children, would wear/own etc. The proposal presented here addresses both these challenges.

The Semantics of M-possessives: First, we suggest that the non-head noun (e.g. man/men) is an indefinite bound by an existential closure which is inserted above the relation -r: For interpretability, this noun moves locally at LF and leaves a trace which functions as the variable restricted by the noun (see Heim 1982).

(6) \[\exists \text{man [ } 1 [ t_1 \text{ r] shoe}]]\]  (Cf. Heim 1982)

Since the trace of the restricting predicate provides the first individual argument of the genitive relation, this assumption addresses the local compositionality problem.

Secondly, we suggest that the intuition that the relation in M-possessives holds ‘generically’ between its two arguments is due to the presence of a generic operator G in their structure, which is a modal/quasi universal operator quantifying over situations.

(7) \[G \ C_4 \exists \text{man [ } 1 [ t_1 \text{ r] shoe}]]\]
The restrictor $C$ of the $G$-operator is a contextually provided set of situations (see discussion of *Mary smokes* in Krifka et al 1995).

Finally, in order to obtain an interpretable LF, the head noun *shoe* moves at LF for interpretability and its trace of type $e$ is the second argument of $–r$. The resulting LF is shown below in (8):

(8) $\left[\text{shoe} \left[3\left[ G C_4[\exists \text{man } [1 [t_1 r] t_3]]\right]\right]\right]$  

The interpretation of (2) is then obtained compositionally as follows.

(9) $\llbracket [\exists \text{man}[1[t_1 r] t_3]] \rrbracket \left[\text{g}_s = 1 \iff \exists x [x \text{ is a man in s and } g(1) \text{ holds of } x \text{ and } g(3) \text{ in s}]\right]$  

(10) $\llbracket G C_4[\exists \text{man } [1 [t_1 r] t_3]]\rrbracket \left[\text{g}_s = 1 \iff G s' \in g(4) \left[\exists x. x \text{ is a man in } s' \text{ and } g(1) \text{ holds of } x \text{ and } g(3) \text{ in } s'\right]\right]$  

(11) $\llbracket 3\llbracket G C_4[\exists \text{man } [1 [t_1 r] t_3]]\rrbracket\rrbracket \left[\text{g}_s = \lambda y. G s' \in g(4) \left[\exists x. x \text{ is a man in } s' \text{ and } g(1) \text{ holds of } x \text{ and } g(3) \text{ in } s'\right]\right]$  

(12) $\llbracket \text{shoe} \left[3\llbracket [G C_4[\exists \text{man } [1 [t_1 r] t_3]]\rrbracket\right]\rrbracket \left[\text{g}_s = \lambda y. y \text{ is a shoe in } s \text{ and } G s' \in g(4) \left[\exists x. x \text{ is a man in } s' \text{ and } g(1) \text{ holds of } x \text{ and } g(3) \text{ in } s'\right]\right]$  

If, for concreteness, we take the relation denoted by $–r$ as one of possession (that is, $g(1) = \lambda x. \lambda y. x \text{ owns } y$), then the predicate we obtain is one true of shoes that generically/typically are owned by a man, as desired.

**Further Evidence:** Our analysis of M-possessives is in terms of generically holding relations, and R-possessives in terms of episodically holding ones. Given this, constraints on these two readings observed elsewhere should apply to M-vs R- readings of the possessives as well. We notice in (13) and (14) that it is quite unnatural to embed an episodic statement under a generically quantified predicate, but the reverse embedding is perfectly natural. Therefore we expect that each $–r$ in an embedding of genitives can convey a different relation if an M-possessive is embedded under an R-possessive, but not vice versa. This prediction is borne out in (15)-(16), where the multiple relation reading is available in (15), but crucially, (16) is unacceptable.

(13) *?Mary typically claims/believes that John smoked a cigarette yesterday.  

(14) Mary knew that John usually smokes.  

(15) Ruma-r chele-de-r juto  
Ruma-gen boy-de-gen shoe  
‘men’s shoe that belongs to Ruma’  

(16) *chele-de-r Ruma-r juto  
boy-de-gen Ruma-gen shoe

**Selected References:**