

On Locative Empty Pronouns and Anti-Quantifier *Zutsu* in Japanese

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This paper examines two of the readings available in (1), and provides evidence for the existence of locative empty pronouns in Japanese. The most obvious reading of (1) is that Taroo and Hanako each bought two books. Here the NP *Taroo-to-Hanako*, expresses the objects over which the intended distribution takes place. Informally speaking, the NP in point is functioning as an antecedent for the distributive affix *zutsu*. In this paper I assume that parallel to the Korean suffix *ssik* (Choe 1987), the distributive affix *zutsu* is an “anti-quantifier”, which forces distributivity basically between two sets of objects (e.g., Choe 1987, Moltmann 1991). Safir and Stowell (1988) convincingly argue that binominal *each* is also an instance of the anti-quantifier.

Of importance in this paper is the fact that (1), unlike its English counterpart with binominal *each*, allows the readings provided in (2a) discussed in Choe (1987) and (2b) noted in Gil (1987). In spite of the fact that (1) does not contain any overt locative phrase, if the context is rich enough to figure out which bookstores are under consideration, the reading given in (2a) is available in (1). The reading in (2b) is even more surprising. We cannot translate this reading into English with binominal *each*.

Notice in (2a) that an overt locative phrase can serve as an antecedent for binominal *each*, which suggests that the reason why the contrast exists between Japanese and English, with respect to the availability of the reading under consideration without any overt locative phrase, is not likely to be semantic in nature (cf. Choe 1987). When it comes to the reading in (2b), Gil suggests that the availability of this reading is due to numeral quantifiers (NQs) being pre-nominal modifiers in Japanese. In this paper, I purport to show that the availability of both readings in Japanese is crucially dependent on the existence of locative empty pronouns in this language (Murasugi 1991). I also support the hypothesis that NQs are predicates in Japanese (Miyagawa 1989, Ueda 1986), which is shown to be a necessary ingredient for the availability of the reading in (2b) (cf. Gil 1987).

First, the reading in (2a) is straightforward once we assume the existence of a locative empty pronoun. I propose that the structure of (1) under the reading in (2a) is as in (3). Now sets of two books are distributed over each of the bookstores under consideration. Notice that the structure equivalent to (3) is unavailable in English, which is not a *pro*-drop language, and thus, the reading in (2a) is not permitted in this language, either.

We now turn to the reading in (2b). In order to clarify the structure of (1) under the intended reading, however, I believe that we first need to examine (4). Again it is not clear over what objects sets of two books are distributed. I would like to suggest that in (4) also, a locative empty pronoun makes the intended distribution of sets of two books possible. The structure that I propose for (4) is as in (5). Here, sets of two books can be distributed over each of the locations under consideration

I further propose that the object NP in (1) under the reading in (2b) also contains a locative empty pronoun as an antecedent for the distributive affix. Of importance here is Murasugi's (1991) claim that locative (and temporal) empty pronouns are licensed by V and Tense. Given that her proposal is correct, we cannot simply assign the structure shown in (6) to the object NP in (1) since neither V nor Tense is present inside the NP in point. Under the intended reading therefore, *ni-satsu-zutsu* must be accompanied by V and Tense within the object NP in (1). This amounts to saying that *ni-satsu-zutsu* is forming a relative clause in the NP, as shown in (7), which is parallel to (5) in the relevant respect. This should not be too surprising since it has been claimed (e.g., Kuno 1973, Nishiyama 1999) that Japanese pre-nominal adjectives are relative clauses. Given the structure in (7), it is natural that the intended distribution of sets of two books takes place within the object NP in (1).

Support for my analysis comes from the fact that the reading in (2b) is not available in (8a, b) in which *ni-satsu-zutsu* appears in positions different from the one in (1). The fact that the reading in (2b) is not available in (8a, b) shows that *ni-satsu-zutsu* must appear in a pre-nominal position to yield the intended reading (cf. Gil 1987). This straightforwardly follows from the present proposal. First, since Japanese is strictly head-final, relative clauses in general cannot follow the head N, and thus, the intended reading is not available in (8a). Also in (8b), given that floating quantifiers (FQs) do not contain TP, locative empty pronouns cannot be licensed within the FQ *ni-satsu-zutsu*, and thus, the lack of the intended reading results.

The lack of the reading in (2b) with binominal *each* naturally follows from (i) English NQs are not predicates (observe the unavailability of the structure corresponding to (4) in English) and (ii) locative empty pronouns are not available in this language.

In sum, this paper provides additional evidence for the existence of locative empty pronouns and the predicative nature of NQs in Japanese. Given the existence of locative empty pronouns, we can avoid the situation that the distributive affix *zutsu* is lexically ambiguous: one with an antecedent

