The Role of Prosodic Packaging in Sentence Interpretation

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Previous studies in both Linguistics and Psycholinguistics have shown that Japanese wh-questions are subject to a specific prosodic contour: in a scopally ambiguous sentence like (1), wide-scope (matrix) interpretation of the wh-phrase is facilitated only when the wh-phrase and its licensor (matrix question-marker) are contained in the same prosodic unit, i.e., Major Phrase (MaP) (e.g., Deguchi & Kitagawa 2002; Hirotani 2003; Ishihara 2002, 2003; Kitagawa & Fodor 2003). One view regarding such a prosodic requirement comes from the processor's need to assign an interpretation locally, i.e., within the same prosodic unit (see Broderick 1996). This paper presents the results of three off-line auditory experiments that further define the domain of the prosody-driven principle of interpretation. The results indicate that the crucial factor for prosodic packaging is the requirement of a c-commanding licensing relation between the relevant items.

In Studies 1 and 2, listeners used a 7-point scale to rate the difficulty of sentence processing. Study 1 tested sentences like (2), which strongly favored the adverbial quantifier taking scope over the numeral subject. The results showed that (2) was more difficult when a MaP intervened between the two quantifiers (2a), compared to when no such boundary existed (2b). The relative ratings were reversed in control sentences which lacked a scope interaction of quantifiers by having a numeral subject alone. This result demonstrates that prosodic packaging is relevant to constructions involving scope items.

In Study 2, sentences having negative polarity *sika* like (3) were tested along with control sentences containing non-negative polarity *dake*. The results showed that having an intervening MaP boundary between *sika* and negation is difficult, while the prosodic manipulation did not matter for control *dake*, suggesting that prosodic packaging of *sika* and negation facilitates the processing of *sika*-scope.

The contrast in the effect of MaP boundaries between the constructions containing *sika* vs. *dake* in Study 2 crucially indicates that it is not just scopal relations that determine the effect of prosodic packaging in comprehending sentences (Study 1), since both *sika* and *dake* involve scopal computations. Rather, it is the presence or absence of the requirement of a syntactic c-commanding licensing relation between negation and a focus particle that is the crucial determining factor.

Study 3 investigated whether prosodic packaging of *zibun* with a potential antecedent NP has an effect on the interpretation of *zibun*, whose antecedent can be either a matrix or embedded subject NP. Interestingly, the results showed that packaging *zibun* with the embedded subject NP (*Mary*) in the same MaP (4a) did not influence the interpretation of *zibun*, i.e., no difference to the embedded NP being chosen as the antecedent, compared to the condition where the relevant NP was prosodically separated from *zibun* (4b).

The present study revealed an interesting contrast between wh-scope, quantifier scope, and NPI on one hand, and anaphoric binding on the other: the former is sensitive to prosodic grouping

while the latter is not. This may indicate that prosodic packaging applies to syntactic licensing conditions but not to cases that involve semantic/discourse representations.

(1) [[John-TOP [[Mary-NOM what-ACC bought]-Q] said]-Q]?

(2) 2, 3-nin-no gakusei-ga **sibasiba** soturon-o kaku.
a couple-cl-GEN students-NOM often honor thesis-ACC write
'A few students often write an honor thesis.'
a. (2, 3-nin-no gakusei-ga) (**sibasiba** soturon-o kaku) (MaP)
b. (2, 3-nin-no gakusei-ga **sibasiba** soturon-o kaku) (No MaP)

(3) John-wa rokku-sika/dake konsaato-de utawanakatta.
John-TOP rock-NPI/non-NPI concert-in sang not.
'John sang nothing/anything but rock in the concert.'
a. (John-wa rokku-**sika/dake**) (konsaato-de **utawanakatta**) (MaP)
b. (John-wa rokku-**sika/dake** konsaato-de **utawanakatta**) (No MaP)

(4) [John$_i$-ga [Mary$_j$-ga **zibun**$_{i, j}$-o kazyoohyooka-siteiru]-to itta].
John-NOM Mary-NOM self-ACC was overestimating-that said
a. (John-ga) (Mary-ga **zibun**-o kazyoohyooka-siteiru-to itta)
b. (John-ga Mary-ga) (**zibun**-o kazyoohyooka-siteiru-to itta)