

Bound Variable Interpretation and the Degree of Accessibility

Natural languages may employ different kinds of lexical items for a bound variable interpretation. For example, it is generally agreed that both pronouns and reflexives in English can be construed as a bound variable, as shown in (1) and (2), yet other lexical items such as an epithet or a definite description headed by a demonstrative can also be claimed to induce a bound variable interpretation. Observe (3) and (4).

- (1) a. Every boy_i thinks Anna likes him_i. b. $(\forall x: \text{boy}(x)) (x \text{ thinks Anna likes } x)$
- (2) a. Innes_i likes himself_i. b. $\text{Innes } \lambda x (x \text{ likes } x)$
- (3) (Noguchi 1997: 784; originally from Hornstein and Weinberg (1988))
 a. John criticised every senator_i in private while praising the bastard_i in public.
 b. John will buy no wine_i before the damn thing_i is ready to drink.
- (4) (Noguchi 1997: 785; originally from Evans (1977))
 Every logician_i was walking with a boy near that logician_i's house.

Japanese also allows several options for a bound variable interpretation. An anaphor *zibun* 'self' or a zero pronoun can readily induce a bound variable reading:

- (5) Daremo_i-ga zibun_i-no/ec_i hahaoya-o aisi-te i-ru.
 everyone-NOM self-GEN mother-ACC love-NF be-NPST
 Everyone loves self's mother.

Just like English, a definite description headed by *sono* 'that' can also be used to express a bound variable reading (Nishigauchi 1986, Hoji 1991, Noguchi 1997). Observe (6).

- (6) (Noguchi, 1997: 786)
 Dono kaisyā_i-mo sono kaisyā_i-no seihin-o home-ru.
 every company-too that company-GEN product-ACC praise-NPST
 Every company praises that company's products.

Moreover, in Hara (to appear) it is argued that contrary to the standard observation, Japanese third person pronouns can be bound by a quantifier phrase (QP) under a certain condition:

- (7) [Sono ondai-ni hait-ta] zyosi gakusei-no daremo_i-ga [kanozyo_i-no
 that music.college-to enter-PST female student-GEN everyone-NOM she-GEN
 sainoo-o mottomo yoku hikidasi-te kure-ru] sensei-ni dea-e-ta.
 talent-ACC most fully bring.out-NF take.the.trouble-NPST teacher-DAT meet-can-PST
 Every female student who entered that music college was able to meet a teacher
 who could bring out her talent to the full extent.

Thus, in Japanese a bound variable interpretation can be obtained by the following four means (at least): using an anaphor *zibun*, a zero pronoun, a definite description headed by *sono*, and a third-person pronoun.

However, it is not the case that all of these expressions can induce a bound variable reading with the same likelihood. As noted above, an anaphor or a zero pronoun can readily induce a bound variable reading, and yet a third person pronoun in Japanese does not easily allow such interpretation. In English, too, there is a clear difference between a pronominal/reflexive on the one hand and a definite description on the other. Thus, even though a definite description in (8a) can be construed as a bound variable, such interpretation is impossible for (8b). But there is no such restriction in the case of a pronoun.

- (8) a. (Noguchi 1997: 785)
 Every boy_i dates a girl who adores that boy_i.
 b. *Every boy_i likes that boy_i's girlfriend.
- (9) a. Every boy_i dates a girl who adores him_i.
 b. Every boy_i likes his_i girlfriend.

In this talk I wish to provide an answer to the question as to why there is such a difference in the availability of a bound variable interpretation for different lexical items. Specifically, I would like to suggest that Accessibility theory proposed in Ariel (1990, 1991, 1994, and the reference cited therein) for discourse anaphora can be naturally applied to the issue of a bound variable interpretation as well. The Accessibility theory-based explanation also sheds light on a bound variable interpretation of Chinese *ta* 'he' which has resisted a successful account so far. Furthermore, if we are on the right track, our account provides us with new insights on the nature and relationship of syntax-discourse interface.

References

- Ariel, M. (1990) *Accessing Noun-Phrase Antecedents*. Routledge, London.
- Ariel, M. (1991) The Function of Accessibility in a Theory of Grammar. *Journal of Pragmatics* 16, 443-63.
- Ariel, M. (1994) Interpreting Anaphoric Expressions: A Cognitive versus a Pragmatic Approach. *Journal of Linguistics* 30, 3-42.
- Evans, G. (1977) Pronouns, Quantifiers, and Relative Clauses (I). *Canadian Journal of Philosophy* 7, 467-536.
- Hara, T. (to appear) Bound Variables in Japanese. In *Linguistics in the Netherlands 2000*.
- Hoji, H. (1991) *Kare*. In C. Georgopoulos and R. Ishihara, eds., *Interdisciplinary Approaches to Language: Essays in Honour of S.-Y. Kuroda*. Kluwer, Dordrecht, 287-304.
- Hornstein, N. and Weinberg, A. (1988) Logical Form: Its Existence and its Properties. In A. Cardinaletti, G. Cinque, and G. Giusti, eds., *Constituent Structure*. Foris, Dordrecht, 143-56.
- Nishigauchi, T. (1986) *Quantification in Syntax*. Doctoral dissertation, University of Massachusetts, Amherst.
- Noguchi, T. (1997) Two Types of Pronouns and Variable Binding. *Language* 73, 770-97.