

## Wide Scope Universal NPIs in Japanese

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It is largely accepted that NPI *any* in English is interpreted as a narrow scope existential with respect to its licenser, rather than as a wide scope universal (Ladusaw 1979, Carlson 1980). In the studies of its Japanese counterpart in the form of indeterminate pronoun + *mo*, it has been a common assumption that the narrow scope existential analysis of English *any* carries over to it. When presented with a more general picture of how quantification is expressed in Japanese as in (1), however, one wonders why particle *mo* contributes universal quantification in the universal series in (1c), but existential quantification in the NPI series in (1d).

(1) A partial list of indeterminate pronouns

<i>dare</i> (person)	<i>dore</i> (thing)	<i>doko</i> (place)
a. da're...Q 'who'	do're...Q 'which'	do'ko...Q 'where'
b. da're-ka 'someone'	do're-ka 'something'	do'ko-ka 'somewhere'
c. da're-mo 'everyone'	do're-mo 'everything'	do'ko-mo 'everywhere'
d. dare-mo 'anyone <sub>NPI</sub> '	dore-mo 'anything <sub>NPI</sub> '	doko-mo 'anywhere <sub>NPI</sub> '
e. dare-de-mo 'anyone <sub>FC</sub> '	dore-de-mo 'anything <sub>FC</sub> '	doko-de-mo 'anywhere <sub>FC</sub> '

The purpose of this paper is to present evidence that the indeterminate-*mo* NPIs are universals that are polarity sensitive (cf. Giannakidou's (2000) analysis of Greek emphatic *n*-words). Crucial evidence for the wide scope universal analysis of these NPIs involves their interpretation in the context of a non-anti-additive function *f*, such that  $f(A \vee B) \neq f(A) \wedge f(B)$ . The fact that the universal series in (1c) and the NPI series in (1d) are identical in form except for the accentual patterns is not puzzling anymore: *mo* in indeterminate-*mo* phrases always contributes universal quantification. Further, a common syntactic assumption that they undergo movement to Spec of NegP, hence outside the syntactic scope of negation, is suitable for deriving the interpretation.

The licensing environment for indeterminate-*mo* NPIs is much more limited than that for *any*. The former can only be licensed when it occurs with a clausemate sentential negation as shown in (2) (e.g., Muraki 1978, Kato 1985, Nam 1994).

- (2) a. Yoko-ga dare-mo {\*syootaisi-ta/syootaisi-nakat-ta}.  
 Yoko-Nom who-MO invite-Past/invite-not-Past  
 'Yoko {\*invited anyone/didn't invite anyone}.'
- b. \*Taro-wa [Yoko-ga dare-mo syootaisi-ta to] iwa-nakat-ta.  
 Taro-Top Yoko-Nom who-MO invite-Past that say-not-Past  
 'Taro didn't say that Yoko invited anyone.'

This local licensing solely by sentential negation makes it almost impossible to distinguish the narrow scope existential and wide scope universal analyses of these NPIs for the following reason. Sentential negation denotes an anti-morphic function, which validates the equivalences in (3) (Zwarts 1998).

- (3) a.  $f(A \vee B) = f(A) \wedge f(B)$   
 b.  $f(A) \vee f(B) = f(A \wedge B)$

In particular, (3a), which also characterizes anti-additive functions, says that the narrow scope disjunction with respect to *f* is equivalent to the wide scope conjunction with respect to *f*. Since sentential negation is the only licenser for indeterminate-*mo* NPIs, and it crucially validates (3a), the narrow scope existential analysis and the wide scope universal analysis are indistinguishable ( $\neg\exists = \forall\neg$ ).

This paper seeks to construct cases in which the two analyses make distinct predictions and shows that it is indeed possible to construct such cases. On the one hand, we want to look at contexts in which licensers do not denote anti-additive functions. On the other hand, we cannot

use just any non-anti-additive expressions (e.g., *fewer than n NP*), since indeterminate-*mo* NPIs require sentential negation. We circumvent this difficulty by constructing cases in which an additional quantificational adverb in conjunction with sentential negation creates a non-anti-additive context, as in (4) and (5). (The translations indicate one of the available readings.)

- (4) dare-mo {taitei(-no baai)/hotondo(-no baai)/mettani} kopiishitsu-ni-wa  
 who-MO in most/almost all cases copy room-in-WA  
 i-nai yo. (iru-to sureba, zibun-no happyoo-no mae dake da.)  
 is-not Prt is-if self-Gen presentation-Gen before only is  
 $\forall > QAdv > not$

'For everyone, it is {mostly/almost always} the case that he or she is not in the copy room. (For each person, if he or she is there at all, it's only before his or her presentation.)'

- (5) itoko-no dare-kara-mo {taitei(-no baai)/hotondo(-no baai)/mettani}  
 cousin-Gen who-from-MO in most/almost all cases  
 nengajoo-ga ko-nai. (kuru-to sureba, kekkonsi-ta tosi dake da.)  
 new.year's.card-Nom come-not come-if marry-Past year only is  
 $\forall > QAdv > not$

'For every cousin of mine, it is {mostly/almost always} the case that a new year's card does not come from him or her. (For each cousin, if one comes from him or her at all, it's only in the year when he or she got married.)'

In the above readings of (4) and (5), the quantificational adverbs take scope over negation. Since the narrow scope existential analysis must interpret the NPI in the scope of negation, it arrives at the scope  $QAdv > not > \exists$  (relaxing the scopally rigid nature of the surface to LF mapping in Japanese). This reading, however, is not equivalent to the reading  $\forall > QAdv > not$ , since [ $QAdv > not$ ] here is non-anti-additive. In other words, the reading in question cannot be expressed in the narrow scope existential analysis. We also show that most other non-anti-additive contexts that potentially decide between the two analyses are rendered not decisive, due to other restrictions such as immediate scope constraint and scope rigidity.

Note that Ladusaw (1979) made use of the non-anti-additive expression *rarely* (analyzed as 'usually+not') in sentence (6) to show that the opposite holds for English *any*, i.e., that the narrow scope existential analysis makes the correct prediction.

- (6) The IRS rarely audits anyone.  
 a.  $QAdv > not > \exists$  'It is usually not the case that there is someone whom the IRS audits.'  
 b.  $\forall > QAdv > not$  \*'Everyone is such that it is usually the case that the IRS doesn't audit him.'

Examples (4) and (5) also show that indeterminate-*mo* NPIs cannot be analyzed as negative quantifiers (with semantically empty sentential negation) as proposed by Watanabe (2002). If they were, it would be predicted that the universal quantifier and negation are always scopally adjacent, which is not the case in (4) and (5).

## Partial References

- Giannakidou, A. 2000. Negative ... concord?, *NLLT* 18, 457-523.  
 Kato, Y. 1985. *Negative Sentences in Japanese*, Sophia Linguistica Monograph 19, Sophia Univ., Tokyo.  
 Muraki, M. 1978. The *sika nai* construction and predicate restructuring, in J. Hinds & I. Howard (eds.), *Problems in Japanese Syntax and Semantics*, Kaitakusha, 155-177.  
 Nam, S. 1994. Another type of negative polarity item, in M. Kanazawa & C. Piñon (eds.), *Dynamic Polarity and Quantification*, CSLI, 3-15.  
 Watanabe, A. 2002. The genesis of negative concord, ms., Univ. of Tokyo.  
 Zwarts, F. 1998. Three types of polarity, in F. Hamm & E. Hinrichs (eds.), *Plurality and Quantification*, Kluwer, 177-238.