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**Verb–movement and Grammar Competition in Korean:
Evidence from negation and quantifier scope**

In a head final language, verb–raising is hard to detect since there is no evidence from the string to support a raising analysis. This is so both for children acquiring the language and for linguists developing an analysis of it. If the language has a clitic–like negation that associates with the verb in syntax, then scope facts concerning negation and a quantified object NP could provide evidence regarding the height of the verb. Even so, such facts are rare, especially in the input to children and so we might be led to expect that not all speakers exposed to a head–final language acquire the same grammar as far as verb–raising is concerned. This paper presents evidence supporting this expectation. Using experimental data concerning the scope of quantified NPs and negation in Korean, we show that there are two populations of Korean speakers: one with verb–raising and one without.

Korean has two types of negation: long form (1) and short form (2).

(1) Long form
      kwuki monste–ka   motun kwuki–lul   mekci **ani ha–yess–ta**.
      cookie monster–Nom every cookie–Acc eat   **Neg do–Past–Decl**
      'The cookie monster did not eat every cookie.'

(2) Short form
      kwuki monste–ka   motun kwuki–lul **an**   mek–ess–ta.
      cookie monster–Nom every cookie–Acc **Neg** eat–Past–Decl
      'The cookie monster did not eat every cookie.'

The scope judgments reported in the literature for sentences containing negation and quantified NPs (QNPs) often conflict with one another. While most authors agree that both types of negation can take narrow scope with respect to both subject and object QNPs, there is no agreement as to the avilability of the wide scope reading of negation (C.–H. Cho 1975, S.–C. Song 1982, J.–H. Suh 1989, Hagstrom 1998, 2002, Y.–K. Baek 1998, J.–B. Kim 2000). We will refer to the reading with wide scope negation as the NotAll reading, and the one with narrow scope negation as the None reading. This disagreement in scope judgments has led to disagreements regarding the syntax of the two types of negation in Korean and their relative positions in the clause structure.

Using the Truth Value Judgement Task (Crain and Thornton 1998), we tested 160 adult speakers of Korean on the relative scopes of negation and QNPs. The experiment tested 3 factors with 2 levels each: Scope (None vs. NotAll) x Negation (Long vs. Short) x Grammatical Function (subject QNP vs. Object QNP). The results are given in (3):
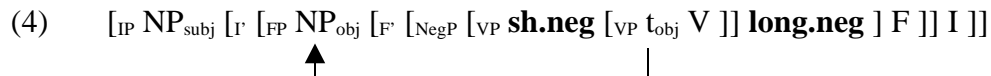
(3) Mean Percentage Acceptance by condition: Adults

GF	Scope	Short Negation	Long Negation
Subject QNP	**NotAll**	4	19
	None	100	100
Object QNP	**NotAll**	37	46
	None	98	98

In sum, we found that: (i) independent of negation type or grammatical function, speakers uniformly accept the None reading; (ii) independent of negation type, speakers are significantly more likely to accept the NotAll reading on an object QNP than they are on a subject QNP; (iii)

although many subjects accept the NotAll reading in sentences with an object QNP, over 50% of subjects did not, indicating a split in the population.

Finding (i) suggests that a structure is available in which both subject and object QNPs c–command both types of negation. We take this finding to argue for a clause structure along the lines of (4), with no V–raising.

(4) $[_{IP}$ NP$_{subj}$ $[_{I'}$ $[_{FP}$ NP$_{obj}$ $[_{F'}$ $[_{NegP}$ $[_{VP}$ **sh.neg** $[_{VP}$ t$_{obj}$ V $]]$ **long.neg** $]$ F $]]$ I $]]$

Object shift from VP–internal position to a functional projection higher in the clause structure is independently motivated by adverb placement (Hagstrom 1998). VP–adjoined adverbs such as *cal* ('well') and *pek* ('very') must be preceded by an object NP in transitive sentences. Positing two different positions for long and short negations is supported by the fact that a sentence can contain both types of negation. Positing a NegP and placing long negation as the head of NegP is motivated by the fact that the verb must be inflected with *–ci* (selectional requirement), and that *ha*, which is equivalent to English *do*, is required to support tense and mood because *ani* in Neg° blocks the verb from coming together with tense and mood inflections.

Finding (ii) supports the availability of a structure in which both long and short negation are hierarchically higher than the object QNP. Assuming that scope for argument NPs is fixed before, and not at, LF in Korean, independently motivated by scope rigidity effects (Sohn 1995, Ahn 1990, Joo 1989, Hagstrom 1998), such structure is possible if the verb undergoes F° to I° movement followed by the cliticization of negation (as in Romance neg–cliticization). Neg–cliticization for Korean is motivated by the fact that negation must immediately precede the verb and nothing can intervene between them (Y.–K. No 1988, J.–B. Kim 2000).

Finding (iii) however, seems to contradict finding (ii). For only about half of our subjects is the NotAll reading available with object QNP, suggesting that for only about half of the population is the verb–raising analysis employed. The two findings can be reconciled under our two grammar hypothesis: one that has verb movement and the other that does not.

If the two grammar hypothesis is correct, then it predicts that we will find the same split in the population among learners of Korean. To test this prediction, we tested 40 4.5 year–old learners of Korean on the object conditions described above. The data for the children is given in (5):

(5) Mean percentage acceptance by condition for Object QNPs: Children

Scope	**Short Negation**	**Long Negation**
NotAll	36.7	40
None	82	87

As predicted, only about half of our child subjects accepted the NotAll interpretation for object QNPs, supporting our analysis that the Korean population actually manifests two distinct grammars: one that allows verb–raising (yielding the NotAll interpretation for object QNPs) and one that employs INFL–lowering (blocking the NotAll interpretation).

Under our approach, the disagreement on scope judgments among subjects in our experiment and in the literature are not attributed to noise in the data, but rather is a real fact that receives an explanation. Moreover, this work supports claims from the diachronic syntax literature (Kroch 1989, Pintzuk 1991, Santorini 1992, Taylor 1994) that even given the restricted hypothesis space determined by UG, insufficient input can lead to distinct grammars in a single population.