Constraints on Quantifier Lowering

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Introduction. A common claim in the literature is that raised universal quantifiers cannot lower into the embedded clause (example (1)), unlike raised existential quantifiers (example (2)). (Chomsky (1995), Boeckx (1999), Wurmbrand & Bobaljik (1999), Fintel & Iatridou (2003))

(1) Context: John and Mary are students.
   a. Every student is allowed not to show up tomorrow, # but John and Mary do need to come.
      # ∀ > allowed > not; * allowed > not > ∀
   b. Every student is likely not to get an “A”, # because John didn’t study at all, so he’s bound to fail.
      # ∀ > likely > not; * likely > not > ∀

(2) A New Yorker is required/likely to win the lottery.  ∃ > required/likely; required/likely > ∃

I demonstrate that raised universals do receive lowered readings in downward-entailing environments. Based on these data, I argue against the proposal that the availability of there-insertion is relevant for scope lowering. (Boeckx (1999), Wurmbrand & Bobaljik (1999)) Rather, I provide novel evidence for Mayr & Spector’s (to appear) Generalized Scope Economy condition together with Takahashi’s (2006) Multiple Scope Generalization.

Lowered readings of raised universals. Raised universals can take low scope in downward entailing environments such as conditional antecedents. Only the low reading of the universal is plausible in (3), and that reading is indeed available.

(3) a. Scenario: The speaker is a fair teacher who hates grade inflation.
   If every student is allowed to get an “A”, I quit. # ∀ > allowed; allowed > ∀
   b. Scenario: It’s OK for the teacher to miss class if none of the students show up.
   If every student is likely to skip class tomorrow, the teacher doesn’t have to come.
      # ∀ > likely; likely > ∀

Analysis. Boeckx (1999) and Wurmbrand & Bobaljik (1999) propose that the availability of a lowered reading for the indefinite in (2) is connected to the availability of a low position for indefinites in there-sentences. This position is not available for universals.

(4) There is likely to be [a New Yorker]/*[every student] in the room.

However, I argue that there is no empirical correlation between the availability of an overt low position for the subject and the possibility of subject scope lowering. Example (5) demonstrates that there-insertion is possible where a lowered reading is prohibited, and (6)/(7) show that a lowered reading is possible where there-insertion is prohibited.

(5) a. There isn’t a student in the room.
   b. A student isn’t in the room. ∃ > not; * not > ∃

(6) a. *There isn’t every student in the room.
   b. Every student isn’t in the room. ∀ > not; not > ∀

(7) *If there is likely to be every student in the room,…

I thus reject the syntactic approach to restricting scope lowering, and instead argue for a semantic analysis. Consider the relationship between potential scope options of the subject in (1).

(8) allowed/likely > ∀ > not] (intermediate scope: strongest) ⇒
    ∃ > allowed/likely > ∃ (surface scope) ⇒
    allowed/likely > not > ∀ (lowest scope: weakest)
Mayr & Spector (to appear) propose:

(9) Generalized Scope Economy Condition (GSEC): [simple version] A covert scope-shifting operation cannot apply if the meaning of the resulting reading is equivalent to or stronger than (i.e. entails) the meaning that would have resulted without it.

The lowest subject scope reading of (1) is weaker than the surface reading, and so is not immediately ruled out by the GSEC. However, subject scope lowering to the intermediate position is ruled out by the GSEC. Impossibility of the lowest subject scope reading in (1) provides novel evidence for Takahashi’s (2006) generalization, where in our case \( \alpha = \forall \), \( \beta = \text{allowed/likely} \) and \( \gamma = \text{not} \):

(10) Multiple Scope Generalization: If \( \alpha, \beta \) and \( \gamma \) are quantificational elements such that (a) \( \alpha \) asymmetrically c-commands \( \beta \) and \( \gamma \), and (b) \( \gamma \) cannot outscope \( \beta \), then narrowest scope of \( \alpha \) is allowed only if intermediate scope of \( \alpha \) is licensed by the grammar.

(11) Every student is likely \([TP_t \text{ not to } [vP \text{ t get an “A”}]\].

The proposal correctly captures which lowered subject quantifier readings are allowed. The lowered reading of the existential in (2) is weaker than the surface reading, as is the lowered reading of the universal in the downward-entailing context in (3), so GSEC does not prevent lowering. Note that an open question for this analysis is why the low reading of the subject is not possible in (12), where no entailment relation between the surface reading and the low reading obtains.

(12) Exactly four students didn’t come. # In fact, half of our class of twenty showed up.

\[
\text{# exactly } 4 > \text{ not; * not } > \text{ exactly } 4
\]

Word count: 759