

Generalized Scope Economy

Background: (i) Scope Economy (SE) dictates that scope-shifting operations must have semantic effects, i.e. the moving (quantificational) element must cross another quantificational element (Fox 2000). Little has been said on whether focus can be a licenser. (ii) ‘Quantificational elements’ are often conflated with focused/focusing elements in the discussion of Intervention Effects (IE, e.g. Rizzi 2004, Beck 2006).

Goal: This paper motivates a generalized version of SE where focused elements are also proper licensers for scope-shifting operations, unifying the range of licensers in SE and interveners in IE.

The data: Mandarin root modals are illicit in sentence-initial positions (= (1)). Exceptionally, insertion of the focus marker *shi* after the sentence-initial modals (SIMs) improves the acceptability (= (2), Lin & Tang 1995:62, ft7). Crucially, *shi* must be associated with the subject (= (3)).

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| <p>(1) *<i>keyi Zhangsan zhunbei wancan</i>
 can Zhangsan prepare dinner
 Int.: ‘Zhangsan can prepare the dinner.’</p> | <p>(3) *<i>keyi Zhangsan shi [qu Beijing]_F</i>
 can Zhangsan FOC go Beijing
 Int.: ‘It can be the case that Zhangsan go to Beijing (but not do something else).’</p> |
| <p>(2) <i>Keyi shi Zhangsan_F qu Beijing</i>
 can FOC Zhangsan go Beijing
 ‘It can be the case that it is Zhangsan who goes to Beijing.’</p> | |

Building on this, we generalize the licensing condition of SIMs as (4):

(4) SIMs are licensed if the elements immediately following them receive focus interpretation.

(4) receives support from A-not-A questions, which are also reported to license SIMs (Lin & Tang 1995, Huang, Li & Li 2009, Lin 2011), as in (5):

- (5) *ke-bu-keyi Zhangsan zhunbei wancan?*
 can-NEG-can Zhangsan prepare dinner ‘Can Zhangsan prepare the dinner?’

A-not-A questions, however, do not *always* license SIMs: while SIM is allowed in (6)a where the subject is focused, (6)b is disallowed where the object is focused.

- (6) [Context: Lisi’s Mainland Travel Permit have expired, so that he cannot go to Beijing...]
 a. *ke-bu-keyi Zhangsan_F qu Beijing?* b. **ke-bu-keyi Lisi qu Taipei_F?*
 can-NEG-can Zhangsan go Beijing can-NEG-can Lisi go Taipei
 ‘May Zhangsan go to Beijing?’ Int.: ‘May Lisi go to Taipei?’

The incompatibility with object focus in (6)b suggests that the SIM in (5) is not licensed by the A-not-A form *per se*, but the subject focus triggered by A-not-A questions, which indeed follows from (4).

Analysis: Assuming root modals base-generate below Spec TP (Tsai 2015), we propose a movement analysis on SIMs. It is constrained by a generalized version of SE where scope-shifting operations must cross *a quantificational or a focused element* (= (7)). This correctly rules *in* SIMs in (2), (5) and (6)a while ruling *out* SIMs in (1), (3) and (6)b.

- (7) [_{Mod}root [TP XP_[Quantificational / Focus] [[VP ...]]]

For concreteness, (8) and (9) show that the proposed movement is possible if it crosses quantificational elements, e.g., quantifiers (= (8)) and interrogative *wh*-phrases (= (9)).

- (8) *Keyi [zhiyou xuesheng] lai* (9) *Keyi shei mianfei qu Beijing?*
 can only student come can who free.of.charge go Beijing
 ‘It can be the case that only students come.’ ‘Who may go to Beijing for free?’

The licit movement in (7) shifts the scope relations and has semantic effects. (10) and (8) demonstrate that truth conditions are affected by movement across *quantificational* elements: while (10) prohibits non-students from coming, (8) merely allows for only students’ coming, keeping silent to whether non-students may or may not come. This could be explained if the movement alters the scope relation between the restrictive quantifier and the root modal.

- (10) [*Zhiyou xuesheng*] *keyi lai*
 only student can come ‘Only students can come.’

Similarly, movement across *focused* element also has semantic effects. Before movement, (11) presupposes the existence of the focused subject, while this presupposition is removed after movement (=12)). Adopting a quantificational analysis of focus (Chomsky 1971, Larson & Lefebvre 1991), focus contains an existential quantifier and the presuppositional difference could be explained by the alternation of scope relation between it and the root modal.

- (11) #*Shangdi_F keyi zhengjiu ni, suiran wo bu xin shangdi cunzai*
 God can help 2SG although 1SG NEG believe God exist
 (12) *Keyi shangdi_F zhengjiu ni, suiran wo bu xin shangdi cunzai*
 can God help 2SG although 1SG NEG believe God exist
 ‘God may help you, though I don’t believe God is here.’

Implications: Quantificational and focused elements form a natural class that also plays a role both the SE and IE. We suggest that this class is characterized by a [+Q/F] feature.

(13) SE: [X ... [...Y...[...<X>...]]] , where Y *must* be [+Q/F] for licit X-movement.

(14) IE: [X_[+Q]...[...Y...[...<X_[+Q]>...]]], where Y *must not* be [+Q/F] for licit X-movement.

The difference between (10) and (11) can be attributed to the trigger of X-movement: [+Q/F] is an intervener if X-movement is *feature-driven*, but a licenser if X-movement is *non-feature-driven*.

Selected Reference: Fox, D. 2000. *Economy and Semantic Interpretation*. Cambridge: MIT Press. Rizzi, L. 2004. Locality and left periphery. In Adriana B., ed., *Structures and Beyond*, 223-251. Oxford: OUP.