

### Alternatives tell you where you are.

“Category: formal syntax, formal semantics”

**Synopsis:** This paper argues that scope of elements with an alternative-activating operator (such as focus or exhaustive) reflect their syntactic positions at LF. I show that in principle, these elements only allow surface scope, and that this property can be used to investigate hierarchical relations among scope bearing elements usefully even in head-final languages like Japanese, where such relations cannot be read off from their surface order.

**Background:** Normal quantifier phrases (QPs) in subject position allow both surface and reconstructed scope readings in Japanese [1], but with a focus marker, they only allow surface scope readings [2]. Similarly, connectives in [3] only allow surface scope readings [4]. This state of affair is also observed in English. QPs without a focus marker allow both surface and reconstructed readings [5], while English counterparts to the items in subject position in [2] and [3] again only allow the surface scope [6-7]. Note that in [7a], the negative polarity item (NPI) *anything* contained in the subject phrase can be licensed. This indicates that the whole subject phrase can undergo reconstruction below the negation. However, when a focus marker *even* is attached to the subject, the NPI is not licensed and the sentence becomes unacceptable [7b], which indicates that the element with *even* cannot undergo reconstruction. Thus, focused phrases and connectives share the property of ‘a lack of reconstruction effects’.

**Proposal:** I propose a scope generalization that elements with an alternative-activating operator (such as focus or exhaustive operators) only allow surface scope. Note that focus markers introduce alternatives to the elements which they attach to (Rooth 1985, 1992), and ordinary scalar items like connectives are typically interpreted with alternatives; E.g., [8a] only means [8b], not [8c]. Chierchia et al. (to appear) argue that in this case, there is a silent exhaustive operator corresponding to English *only* [8d] (i.e., ‘embedded implicature’). Thus, focused phrases and connectives can be regarded as elements with an alternative-activating operator. Then, I give an account of the generalization: Assume that A-movement does not reconstruct in syntax (Lasnik 1998, 1999 for English, Bobaljik and Wurmbbrand (to appear) for German and Japanese). This means that the inverse scope readings with normal QPs as seen in [1] is obtained in post syntax, namely semantics. I adopt the approaches in Cresti (1995) and Rullman (1995), where moved phrases may leave a higher type trace of generalized quantifiers and reconstruct as a consequence of  $\lambda$ -conversion in semantics [9] (Semantic Reconstruction). Then, assume that alternatives are calculated on the basis of LF representations. This means that in [2], since the subject NP is outside the scope of negation at LF, all the subjects in alternatives must be outside the scope of negation as well (i.e., alternatives are the set of the propositions of the form ‘[X [didn’t come]]’). If semantic reconstruction occurs in this situation, the resulting proposition (‘[not [X came]]’) is not included in its alternatives, which is not permitted. This yields the surface scope effect for elements with an alternative-activating operator. E.g., in [2a] with *-mo*, it is presupposed that there is a person other than Taro ‘who didn’t come’, not ‘who came’; for the latter to be obtained, the subject must be below negation at LF, but the possibility is excluded since A-moved elements do not reconstruct in syntax.

**Consequences:** The surface scope effect proposed above reveals that in Japanese, object NPs in fact occupy a position higher than sentential negation since focused phrases and connectives in object position only allow wide scope over the negation [10], again unlike normal QPs [11]. Thus, I argue that in Japanese, object NPs must undergo overt object shift (OS) above negation (cf. Ochi 2009). In the literature, assuming the structure [12], this obligatory wide scope phenomenon is treated as follows: for focused phrases, it is assumed that they must move to some projection higher than negation for licensing reason (Hoshi 2006, Miyagawa 2010, a.o.). Note, however, that focused accusative objects do not scope over dative objects which c-command them [13]. Similarly, focused dative objects do not scope over subjects [14]. Since focused phrases can appear in subject position [2] too, we have to assume at least three separate projections for focus licensing if focused phrases must move to a higher focus projection. As for connectives, Goro (2007) argues that they are in fact positive polarity items (PPIs), hence must move outside the scope of the negation. However, these items behave differently from English PPIs like *some*. Szabolcsi (2004) observes that *some* can scope below sentential negation if there is another downward-entailing operator; ‘rescuing effect’ [15]. By contrast, Japanese connectives cannot be rescued [16]. Based on this, Goro claims that these connectives are not a ‘rescuable’ type of PPIs, unlike *some*. Under the current analysis, these are treated uniformly; after OS above negation, the surface scope effect traps them in the position at LF, preventing them from reconstruction. Also, this accounts for why other QPs can take wide scope over sentential negation in Japanese as in [11] without being trapped inside the scope of negation like English QPs [17]. Under the structure [12], this is rather mysterious as Japanese is known to lack English type QR operations. Under the current analysis, since objects are higher than negation after OS, the availability of the wide scope reading is not at all surprising. In addition, this captures the observation from the experimental study in Han et al. (2004) that ‘object>not’ reading is more prominent than ‘not>object’ reading in simple negative sentences in Japanese. This result is expected since object NPs c-command negation at LF, hence ‘object>not’ reading is, in fact, simply a surface scope reading.

- [1] Subete-no/Go-nin-izyoo-no gakusee-ga ko-nakat-ta.  
all-GEN/5-CL-more.than-GEN student-NOM come-Neg-Past  
'lit. All/More than 5 students didn't come.' (subj.>neg; neg>subj.)
- [2] Taroo-mo/dake/sae ko-nakat-ta.  
Taro-also/only/even come-Neg-Past (also/only/even > neg)  
'lit. Also/Only/Even Taro didn't come.' (\*neg > also/only/even)
- [3] *connectives*: disjunction 'NP-ka-NP', conjunction of the form 'NP-mo NP-mo'
- [4] [Taroo-ka-Ziroo]-ga/[Taroo-mo Ziroo-mo] ko-nakat-ta.  
Taro-or-Ziroo-NOM Taro-also Ziroo-also come-Neg-Past (or/and > neg)  
'lit. Taro or/and Ziro didn't come.' (\*neg > or/and)
- [5] All students/A student didn't take the exam. (all/a > not; not > all/a)
- [6] Only John/[John or Tom] didn't take the exam. (only/or > ¬; \*¬ > only/or)
- [7] a. A doctor who knew anything<sub>NPi</sub> about acupuncture wasn't available. (a: from Uribe-Etxebarria 1993)  
b. \*Even a doctor who knew anything<sub>NPi</sub> about acupuncture wasn't available.
- [8] a. John or Tom will come.  
b. John will come or Tom will come.  
c. Both John and Tom will come.  
d. Exh(John or Tom) will come.
- [9]  $[QP]_{\langle e, p \rangle} [\lambda f \in D_{\langle e, p \rangle} [\dots [NEG [\dots t_{\langle e, p \rangle} \dots]]]] \Rightarrow \lambda$ -conversion  $\Rightarrow$   
=  $[\dots [NEG [\dots [QP]_{\langle e, p \rangle} \dots]]] = \dots$
- [10] a. Taroo-wa pan-mo/dake/sae kaw-anakat-ta.  
Taro-Top bread-also/only/even buy-Neg-Past (also/only/even > neg)  
'lit. Taro didn't buy also/only/even rice.' (\*neg > also/only/even)  
b. Taroo-wa [pan-ka-kome]-o/[pan-mo kome-mo] kaw-anakat-ta.  
Taro-Top bread-or-rice-ACC -also -also buy-Neg-Past (or/and > neg)  
'lit. Taro didn't buy bread or/and rice.' (\*neg > or/and)
- [11] Taroo-wa [zen'in-o]/[5-nin-izyoo-no gakusee-o] sikar-anakat-ta.  
Taro-Top all-ACC/5-CL-more.than-GEN student-ACC scold-Neg-Past  
'lit. Taro didn't scold all/more than five students.' (obj.>neg; neg>obj.)
- [12]  $\dots [TP T [NegP Neg [_{i,p} \dots Obj. \dots]]]$
- [13] Taroo-ga san-nin-izyoo-no sensee-ni yo-nin-izyoo-no dansi gakusee-mo/sae syookaishi-ta.  
Taro-NOM 3-CL-more.than-GEN teacher-DAT 4-CL-more.than-GEN male student-also/even introduce-Past  
'lit. Taro introduced also/even more than four students to more than three teachers.' (3 > 4; \*4 > 3)
- [14] San-nin-izyoo-no sensee-ga yo-nin-izyoo-no dansi gakusee-ni-mo/sae John-o syookaishi-ta.  
3-CL-more.than-GEN teacher-NOM 4-CL-more.than-GEN male student-DAT-also/even John-ACC introduce-Past  
'lit. More than three teachers introduced John to also/even more than four students.' (3 > 4; \*4 > 3)
- [15] a. John didn't call someone. (\*¬>some)  
b. I don't think that John didn't call someone. (ok: ¬>¬>some)
- [16] a. John-wa [Taro-ga piza ka pasuta-o tabe-nakat-ta to] omowa-nakat-ta (Goro 2007: 267)  
John-Top Taro-NOM pizza or pasta-ACC eat-Neg-Past Comp think-Neg-Past  
'lit. John didn't think that Taro didn't eat pizza or pasta' (\*¬>¬>or / ok: ¬>or >¬)  
b. John-wa [Taro-ga piza mo pasuta mo tabe-nakat-ta to] omowa-nakat-ta  
John-Top Taro-NOM pizza also pasta also eat- Neg-Past Comp think- Neg-Past  
'lit. John didn't think that Taro didn't eat both pizza and pasta' (\*¬>¬>and / ok: ¬>and >¬)
- [17] John didn't hit every student. (not>every; \*every>not)

**Selected References:** Bobaljik, J. & S. Wurmbrand. to appear. Word order and scope: Transparent interfaces and the 3/4 signature. *LI*. Chierchia, G., D. Fox & B. Spector. to appear. The grammatical view of scalar implicatures and the relationship between semantics and pragmatics. Cresti, D. 1995. Extraction and reconstruction, *Natural Language Semantics* 3, 79-122 Goro, T. 2007. *Language specific constraints on scope interpretation in first language acquisition*. UMD diss.. Han, C.-H., D. R. Storošenko, and Y. Sakurai. 2004. Scope of negation, and clause structure in Japanese. *Proceedings for Berkeley Linguistics Society* 30. Hoshi, K. 2006. Deriving association with focus in Japanese within the single cycle system. *Language, culture, and communication* 37. Miyagawa, S. 2010. *Why agree? Why move? Unifying Agreement-based and discourse-configurational languages*. MIT Press. Ochi, M. 2009. Overt object shift in Japanese. *Syntax* 12, 324-362. Rooth, M. 1985. Association with focus. UMass diss.. Rullmann, H. 1995. *Maximality in the Semantics of Wh-construction*. UMass diss..