

## Negative Structure in Japanese

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**Synopsis:** This paper argues that Japanese sentential negation is in a position higher than *vP* just like other languages such as English and that no multiple negative structures need to be assumed to capture scope patterns of negation. It shows that apparently narrow scope of negation is due to the existence of obligatory object movement in Japanese.

**Background:** Negative structures in Japanese have been controversial. Quantifier phrases (QPs) in object position can scope either over or under negation in Japanese [1], which contrasts with English [2], where the object QP is trapped inside the scope of negation. This is rather mysterious since Japanese is assumed to lack optional quantifier raising (QR) process; Japanese is a so-called scope-rigid language. In the literature, Kuno (1980, 1983) argues that basically scope of negation does not extend beyond the immediately preceding verb in Japanese, which is compatible with the availability of ‘obj.>not’ reading in Japanese, and cases other than that are due to some pragmatic factor. Other authors (Takubo 1985, Yatabe 2002, Han et al. 2004, Kataoka 2006, Kishimoto 2008 a.o.) assume that there are several positions for negation in Japanese. One more complication is that Saito (2006) points out that subjects of a transitive verb also can be inside the scope of negation [3]. This means that the structure where negation c-commands the subject or the copy/trace of it also should be available in Japanese; otherwise, the ‘not>all’ reading should be impossible, but at the same time, Japanese allows objects to be outside the scope of negation, even with lacking optional QR. Here, I pursue another possibility that the difference between Japanese and English is not the position of negation but the position of objects.

**Surface scope effects:** I show that focus and disjunction are revealing in understanding the position of objects. In English, QP subjects allow inverse scope readings, while focused or disjunctive phrases do not [4]. The subjects in [4b] share the property ‘introducing alternatives’. Focused phrases like *only* are known to introduce alternatives (Rooth 1985), and ordinary scalars like disjunction are typically interpreted with alternatives. For instance, [5a] *only* means [5b], not [5c]. Chierchia et al. (to appear) claim that in this case, there is a silent exhaustive operator as in [5d], which excludes its alternative like [5c]. Then, why these elements allow only surface scope is explained as follows: Assume that A-movement does not reconstruct in syntax (Chomsky 1995, Lasnik 1998, 1999), which means that the inverse scope reading in [4a] is obtained post-syntactically, i.e., in semantics. I adopt the approaches by Cresti (1995) and Rullmann (1995), where moved phrases may leave a higher type trace of generalized quantifiers and reconstruct as a result of  $\lambda$ -conversion in semantics [6]. Assuming that alternatives are calculated based on LF structures, we then get the surface scope effect in [7]. For example, consider *only John* in [4b]. Since it is above negation at LF, the alternative propositions are of the form ‘[X [didn’t come]]’. This yields the presupposition ‘there is no other person *who didn’t come*’, which is only compatible with ‘only>not’ reading. For the presupposition ‘there is no other person *who came*’, which is compatible with ‘not>only’ reading, the subject must reconstruct in syntax, which is excluded. **Negative structure:** Surprisingly, when disjunction *A-ka/matawa-B* ‘A or B’ or focused phrases *A-mo/dake* ‘also/only A’ are placed in object position, the ‘not>obj.’ reading becomes unavailable [8-9]. Since these phrases reflect their surface scope, it follows that these objects are above negation in the syntax. Thus, I argue that Japanese objects must move over NegP (i.e., object shift), which makes ‘obj.>not’ readings available in general, and that the negative structure of Japanese is uniformly [10]; we need not assume several structures for negation in Japanese. Also, [10] correctly predicts that subjects also can scope below negation as they leave a copy/trace in [Spec,*vP*], which is below NegP. Thus, what is tricky in Japanese is that the object movement process makes negative structures look different from other languages. Note that if indeed Japanese allows several negative structures and in one of them, objects can be below NegP, the unavailability of ‘not>obj.’ reading in [8-9] would be mysterious. If these phrases are positive polarity items (PPIs), the scope pattern could be explained, but they behave differently from PPIs. Goro (2007) observes that Japanese disjunction does not exhibit ‘rescuing effect’ by another downward-entailing (DE) operator (Szabolcsi 2004). In fact, focused phrases also do not show this effect. Thus, even with another DE operator, these phrases cannot scope below the local negation [12], which contrasts with English PPI *some* [11]. Also, these phrases do not seem to undergo some focus movement to a higher projection. Miyagawa (2010) claims that expressions with a particle *-mo/-ka* move to T for focus licensing reason. However, this does not seem to work since adding a focus particle does not change the scope relation between arguments. The focused accusative object does not scope over the dative object [13], as is a usual state in scope-rigid languages like Japanese. By contrast, the current analysis does not require those additional assumptions to account for [8-9]&[12]; after object movement, those phrases are trapped there by the effect [7], so the narrow scope is excluded. The current analysis also captures the

observation from the experimental study by Han et al. (2004). They found ‘obj.>not’ reading is far more prominent than ‘not>obj.’ reading in sentences like [1]. This is not surprising under the current analysis; ‘obj.>not’ reading is, in fact, a surface scope reading, and it is well-known that the surface scope reading is often stronger than the inverse scope one.

### Examples:

- [1] Taroo-wa gakusee-zen’in-o/go-nin-o sikar-anakat-ta. (obj.>¬; ¬>obj.)  
 Taro-top student-all-ACC/5-CL-ACC scold-NEG-PAST  
 ‘lit. Taro didn’t scold every student/five students.’
- [2] John didn’t scold every student. (\*obj.>¬; ¬>obj.)
- [3] (Context: *Students have a choice of taking the exam or handing in a term paper to receive a credit*)  
 Zen’in-ga siken-o erab-ana-i to omo-u  
 all-NOM exam-ACC choose-NEG-PRES that think-PRES  
 ‘I think that all will not choose an exam (over a term paper).’ (all>¬; ¬>all)
- [4] a. Every/A student didn’t come. (every/a>¬; ¬>every/a)  
 b. Only John/John or Tom didn’t come. (only/or>¬; \*¬>only/or)
- [5] 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.
- [6] [QP]<sub><e>P</sub> [λf∈D<sub><e>P</sub>. [... [NEG [... t<sub><e>P</sub> ... ]]]] λ-conversion  
 = [... [NEG [... [QP]<sub><e>P</sub> ... ]]] = ... (i.e., the moved QP is plugged into the trace position)
- [7] *Surface scope effects of alternative-introducing elements*  
 An element interpreted with its alternatives allows only surface scope.
- [8] Taroo-wa [yasai-mo/dake] tabe-anakat-ta. (obj.>¬; \*¬>obj.)  
 Taro-top vegetable-also/only tabe-NEG-PAST  
 ‘lit. Taro didn’t eat only/also vegetable.’
- [9] Taroo-wa [yasai matawa kudamono]-o tabe-anakat-ta. (obj.>¬; \*¬>obj.)  
 Taro-top vegetable or fruit -ACC tabe-NEG-PAST  
 ‘lit. Taro didn’t eat vegetable or fruit.’ (Shimoyama 2011: 440)
- [10] ... [TP T [NegP Neg [<sub>NP</sub> ... ]]] (the linear order is irrelevant)
- [11] a. John didn’t call someone. (some>¬; \*¬>some)  
 b. I don’t think that John didn’t call someone. (ok: ¬>¬>some)
- [12] a. John-wa [Taro-ga pan-mo/dake tabe-nakat-ta to] omowa-nakat-ta  
 John-TOP Taro-NOM bread-also/only eat-NEG-PAST that think-NEG-PAST  
 ‘lit. John didn’t think that Taro didn’t eat also/only bread.’ (\*¬>¬>also/only; ok: ¬>also/only>¬)  
 b. John-wa [Taro-ga pan-ka-kome-o tabe-nakat-ta to] omowa-nakat-ta  
 John-TOP Taro-NOM bread-or-rice-ACC eat-NEG-PAST that think-NEG-PAST  
 ‘lit. John didn’t think that Taro didn’t eat bread or rice.’ (\*¬>¬>also/only/or; ok: ¬>or>¬)
- [13] Taroo-ga [yo-nin-izyoo-no sensee-ni] [san-nin-no dansi gakusee-mo/dake] syookaishi-ta.  
 Taro-NOM 4-CL-OR.more-GEN teacher-DAT 3-CL-GEN male student-also/only introduce-PAST  
 ‘lit. Taro introduced also/only three male students to four or more teachers.’ (dat.>acc.; \*acc.>dat.)

**Selected References:** 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 & Y. Sakurai. 2004. Scope of negation, and clause structure in Japanese. *Proceedings for Berkeley Linguistics Society* 30. Kishimoto, H. 2008. On the variability of negative scope in Japanese. *J.L.* 44. Miyagawa, S. 2010. *Why agree? Why move? Unifying Agreement-based and discourse- configurational languages*. MIT Press. Rooth, M. 1985. Association with focus. UMass diss.. Rullmann, H. 1995. *Maximality in the Semantics of Wh-construction*. UMass diss.. Saito, M. 2006. Optional A-scrambling. *JK16*. Szabolcsi, A. 2004. Positive Polarity, Negative Polarity. *Natural Language and Linguistic Theory* 22.