Abstract

Japanese is known to exhibit scope rigidity in a sentence that contains multiple quantifiers (Kuno 1973, Hoijt in 1985, among many others; Hayashi shita 2000, Miyagawa 2011 for possible scope flexibility). Scrambling is one way to yield scope ambiguity. This poster points out that sentences in a universal modal context without scrambling show the seeming inverse scope reading, while the counterpart with a universal modal does not yield the reading. In Goro, 2007, he descriptively points out such contexts where the inverse scope is acquired, referring to them as "irrealis" contexts, but leaves the analysis open. As opposed to Goro’s observation, my survey reveals that not all "irrealis" contexts allow this reading, and that sentences in an existential modal context do not yield the inverse scope. Contrary to a naive hypothesis that the universal quantifier Q-linked to a higher position relative to the existential quantifier, I argue that a universal quantifier doen no-mo under a universal modal context has a semantic scopal effect of taking the actual realization at LF.

The inverse scope reading is not available (1). However, for Tokyo Japanese speakers, the inverse scope reading becomes quite easy to access when a sentences is with universal modal such as [2a, b] and [3].

(1) [Darega-ga], [dono heya-mo], katazuke-ta.

‘Someone organized every room.’

(2) a. [Darega-ga], [dono heya-mo], katazuke nakerana-nari.

‘Someone must (deon.) organize every room.’

b. [Darega-ga], [dono heya-mo], katazukeru-ni titagaini.

‘Someone must (epi.) organize every room.’

(3) a. [Darega-ga], [dono heya-mo], katazuke shou(duon.)-ni organize every room.

‘Someone must (deon.) organize every room.’

b. [Darega-ga], [dono heya-mo], katazuke shou(epi.)-ni organize every room.

‘Someone must (epi.) organize every room.’

c. [Darega-ga], [dono heya-mo], katazuke hituyo-ga-aru.

‘Someone needs to organize every room.’

‘Someone should (deon.) organize every room.’

The sentence (4) allows various situations. And in most of the situations that are allowed, V > 3 does not hold.

As a whole, it looks like V > 3 holds.

(4) [Darega-ga], [dono heya-mo], katazuke may(epi.) organize every room.

‘Someone may(epi.) organize every room.’

What “many > 3” reading would be:

As in (7), many cannot take scope over someone even in a universal modal context. This suggests that the scope illusion is not induced by the actual QR of the quantifier in the object position, and that the surface scope must be preserved at LF.

(7) [Darega-ga], [ooku-no heya-o] tataku.

‘Someone organized every room.’

‘Someone organized every room.’

Futurity is not universal modal or existential modal and it is uncertain how to deal with it. I leave this for future research.

Analysis

I argue that with a universal modal, a universal quantifier doen no-mo has a semantic scopal effect of taking a wider scope than the actual realization at LF (CF: Fox & Sauerland 1996). The apparent inverse scope is acquired only when we look at the world as a collection of minimal possible worlds (cf. Heim 1990 for the notion of minimality). Also I argue that the apparent inverse scope is not acquired by QR of the universal quantifier.

■ Surface scope reading actually holds.

(2a) [Darega-ga], [dono heya-mo], katazuke nakerana-nari.

‘Someone must (deon.) organize every room.’

Proposed LF for (2a):

In every accessible possible world w such that the w conforms with requirement, there is a set of minimal situations, such that every situation s, such that someone organizes every room in s, is a situation which someone organizes every room.

(5)

<table>
<thead>
<tr>
<th>Situation A</th>
<th>Situation B</th>
<th>Situation C</th>
<th>Situation D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person A</td>
<td>Person B</td>
<td>Person C</td>
<td>Person D</td>
</tr>
<tr>
<td>Room A</td>
<td>Room B</td>
<td>Room C</td>
<td>Room D</td>
</tr>
<tr>
<td>V holds.</td>
<td>As a whole, it looks like V &gt; 3 holds.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

■ The LF for (4), with existential modal, does not necessarily match (5).

LF for (4):

There is a world w’ compatible with the evidence in w, in such a world there is a person such that he organizes every room in the situation w.

(6)

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<td>Person D</td>
</tr>
<tr>
<td>Room B, D, E</td>
<td>Room C, F</td>
<td>Room B, D, E</td>
<td>Room C, F</td>
</tr>
<tr>
<td>V holds.</td>
<td>As a whole, V &gt; 3 does not hold.</td>
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</tbody>
</table>

As in (7), many cannot take scope over someone even in a universal modal context. This suggests that the scope illusion is not induced by the actual QR of the quantifier in the object position, and that the surface scope must be preserved at LF.

■ Not a QR.

(7) [Darega-ga], [ooku-no heya-o] tataku.

‘Someone organized every room.’

As a whole, it looks like V > 3 holds.

■ A not big leaf from Fox & Sauerland (1996).

Fox & Sauerland (1996) point out that “illusive scope” of universal quantifiers in generic tense is found in scope islands in English, and in rigid scope languages such as Korean and Japanese.

(8) a. Yesterday, I gave a tourist every leaflet.

b. In general, I gave a tourist every leaflet.

(9) Geemu-de-wa, [hitori-nokodomo-ga] tataku.

‘Someone needs to organize every room.’

‘Someone must (deon.) organize many rooms.’

‘In the game, one child knocks on all doors.’

‘In general, I give a tourist every leaflet.’

As a whole, it looks like V > 3 holds.

(10) a. In general, I (must) give a tourist every leaflet (as a job duty).

b. In general, I give a tourist every leaflet (when I feel like).

(11) [Darega-ga], [dono heya-mo], katazukeru darou.

‘Someone will organize every room.’

‘Someone will organize every room.’

Futurity is not universal modal or existential modal and it is uncertain how to deal with it. I leave the question open.

Speakers often find difference in availability of the inverse scope reading between (10a) and (10b). This suggests that F&S in fact look at the generic context with some universal force, not the generic context in general.

Conclusion & Discussion

This poster shows that Japanese appears to exhibit flexible scope interactions with universal modals. I argue that, the inverse scope reading is acquired because the universal modal forces us to look at every minimal situation and to check if the surface scope holds or not. Existential modals do not have the illusive effect. The claim that the inverse scope is not derived by QR is supported by the fact that the wide scope of many in (7) is not acquired. My analysis can be compared with F&S’s (1996) “illusive scope” proposal in generic tense. I further argue that it was (implicit) universal modal that was crucial, not the generic tense, in the examples in F&S.

There are several remaining problems. First, my survey reveals that many people find it easy to get the inverse scope reading with futurity, as in (11).

As a whole, it looks like V > 3 holds.

Note that in Goro (2007), he points out that even sentences with existential modal allow the inverse scope reading, while my survey shows that 7 out of 8 Tokyo Japanese speakers rated (6) on the inverse scope reading as ?? or *.

As a whole, it looks like V > 3 holds.

Questions we want to answer:

■ Why does this happen only with universal modals?

■ Does the universal quantifier doen heya-mo actually QR the existential quantifier in the subject position?