

## On the Semantics of Japanese Deontic Modals

(Category: Formal semantics)

**Goal** This paper demonstrates that Japanese deontic modal expressions produce the meanings comparable to their English counterparts through a different logical structure. I present a semantic analysis which is faithful to the complex morpho-syntax for Japanese deontic modals.

**Observations** Japanese deontic modal expressions (and other related constructions) are morpho-syntactically complex (See Akatsuka (1992) for this observation and Nauze (2008) for Korean deontic modal expressions). The deontic concept of permissions is, for example, expressed by a combination of a conditional marker and the predicate *ii* ‘good,’ as in (1):

- (1) Doa-o                      ake-temo              ii.  
door-ACC                      open-even if              good  
‘(lit.) Even if (you) open the door, (it is) good.’  
‘You may open the door.’

The expression *ii* ‘good’ is not a modal operator, since the quantificational strength of modal constructions involving the predicate *ii* ‘good’ varies, as shown in (2) and (3). The force of quantification is relatively strong in (2), while the strength of quantification is strong in (3). If the predicate *ii* ‘good’ has its own quantificational force, this would be puzzling:

- (2) Advice and suggestion

Kuuki-o irekaeru ni-wa kokono doa-o aker-eba/ake-ta-ra/aker-u-to              ii.  
air-ACC exchange to-TOP this door-ACC open-if/open-PAST-if/open-NONPAST-whengood  
‘(lit.) To exchange the air, if (you) open this door, (it is) good.’  
‘To exchange the air, I suggest that you should open this door.’

- (3) Wish and hope

Kokono doa-ga ake-ba/ai-ta-ra/aku-to              ii              naa.  
this door-NOM open-if/open-PAST-if/open-NONPAST-when good particle  
‘(lit.) If this door would be open, (it is) good.’  
‘I wish/hope that this door would be open.’

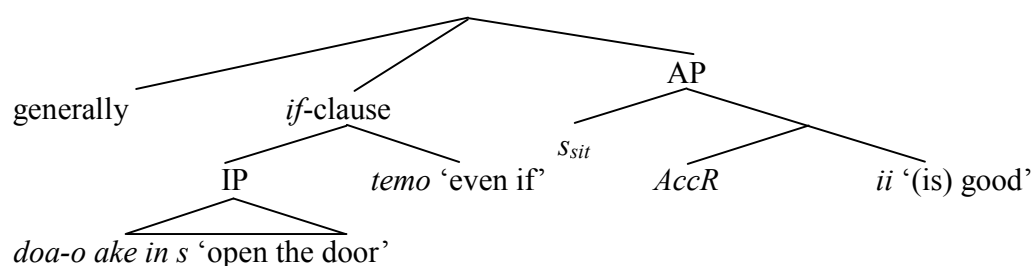
**Proposal** I propose the following three points from the above observations:

- (4) a. Japanese deontic modal expressions have a conditional form and meaning. They bear an implicit universal or generic operator along the lines of Lewis (1975), Heim (1982), and Kratzer (1986).  
b. The predicate *ii* ‘good’ is a predicate of worlds (or a maximal situation in situation semantics).  
c. The strength of quantification is due to the semantic contribution of particles (The quantificational strength of permission is weak because the additive particle *-mo* ‘also/even’ in *-temo* ‘(lit.) even if’ presupposes that there are some true alternatives).

**Implementation** Sentence (1) roughly states that if you open the door in a minimal situation *s*, *s* has a counterpart, which is extended to a “good” world. The LF structure and meaning are more

formally analyzed in (5a, b) (*AccR* represents an accessibility relation function). The semantics refers to a minimal situation to avoid a logical inconsistency. The set of worlds where you open the door, for example, includes the set of worlds where you open the door and you hit someone. Those worlds should be eliminated from the set of “good” worlds. It is further assumed that minimal situations are extended to worlds, following the tradition of possible worlds semantics of modality. I employ the idea of counterpart because we cannot just expand the relevant situation, which might include a situation where you hit the speaker. Along the lines of Lewis (1986), Kratzer (1989), and Arregui (2009), situations may be related across possible worlds via counterpart relation (See Arregui (2009) for the definition of the modal part-of relation):

(5) a.



- b. Sentence (1) is defined if there are some true contextual alternatives. If this presupposition requirement is satisfied, sentence (1) is true if and only if for every minimal situation *s* in which you open the door, there is an extended situation (i.e. a world) *w* such that *s* is a modal part-of *w* and *w* is a member of the set of worlds relative to the accessibility relation.

**Conclusion** Japanese deontic modals have a complex morpho-syntax and we obtain meanings comparable to their English counterparts through a different logical structure. This paper has maintained that (i) the conditionals bear an implicit universal or generic operator, which is the source of quantification, (ii) the predicate *ii* ‘good’ is a predicate of worlds, and that (iii) the relevant particle, which is a part of a conditional morphology, refers to the contextual alternatives and produces distinctions in the quantificational force.

## References

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