# Constructing Concessive Conditionals: In Case of Japanese

Ai Matsui
Dept. of Linguistics and Germanic, Slavic, Asian,
and African Languages
Michigan State University

matsuiai@msu.edu

**Abstract**

This paper presents a compositional analysis of concessive conditionals in Japanese, which consists of a gerundive clause and the particle *mo*. Unlike the English *even if* sentences, there is no morpheme like *if* that apparently signals conditionality. On its surface, it looks as if the existence of *mo* serves as a combination of 'even' and 'if'. I propose that *mo* can have a quantificational force over possible worlds. By interacting with the meaning of gerundive clause, it derives the conditionality '*if*' and the unlikeliness '*even*' meaning. In addition to a general understanding of concessive conditionals in a cross-linguistic view, this study also leads to further questions about *mo* which has a wide range of properties from additivity to quantification.

## 1 Introduction

This paper is concerned with the Japanese concessive conditionals in contrast with the *even if* sentences in English. Consider a sample situation like (1) and the following concessive conditional sentence (2).[1]

(1) SITUATION: Mary has been hospitalized for a long time. Normally, despite her difficult physical condition, she looks very happy when her boyfriend John comes to see her. Exceptionally, though, this is not the case when she needs to get an injection. She hates it so much that ...

(2) John-ga kite-mo Mary-wa fukigen-da
John-NOM come.GER-*mo* Mary-TOP grumpy-is.NONPAST
'Even if John came, Mary would be in a bad mood.'

[1]Following abbreviations are used in this paper: TOP=Topic Marker, ACC=Accusative Marker, NOM=Nominative Marker, DAT=Dative Marker, CONT=Contrastive Marker, GER=Gerundive Form, COND=Conditional Form

Arndt Riester & Torgrim Solstad (eds.)
*Proceedings of Sinn und Bedeutung 13*, University of Stuttgart, 2009

As the English translation shows, the sentence (2) not only expresses conditionality (under which condition Mary is in a bad mood), but also how unlikely it is, given the normal situation. Concessive conditionals in Japanese consist of an antecedent clause that contains a verb in the 'gerundive' form and the particle *mo*.[2]

An interesting puzzle arises when we compare (2) with (3), which is identical to (2) except for the absence of *mo*.

(3) John-ga kite Mary-wa fukigen-da
John-NOM come.GER Mary-TOP grumpy-is.NONPAST
'John came, and Mary is/will be in a bad mood.'
**NOT:** 'If John came, Mary would/will be in a bad mood.'

Without *mo*, not only does it lose the 'even' meaning, but it loses the 'even if' meaning altogether. The minimal pair (2)-(3) shows that the existence of *mo* on the gerundive clause expresses the *if*-meaning (conditionality) and the 'even' meaning (unlikeliness, unexpectedness) at once.[3] The main purpose of this paper is to derive the concessive conditional meaning compositionally and show how *mo* on the gerundive clause turns 'p and q' (3) into 'even if p, q' (2). As it will be shown in section 4, this leads us to further questions of understanding the property of this particle *mo* and the gerundive construction in Japanese. Before I present my solution to the puzzle, let us review the two basic notions crucial for the meaning and structure of concessive conditionals, i.e. conditionality (section 2.1) and unlikeliness (section 2.2).

# 2 Backgrounds

## 2.1 Conditionality

Being accompanied by the conditional meaning, sentence (2) does not show a prototypical conditional construction. Typically, the antecedent clause of conditional sentences has some sort of conditional morpheme such as the 'conditional' *(r)eba* clause, the 'perfective' *tara* clause, and the 'assertive' *nara(ba)* clause (Kuno, 1973).

(4) a. (Moshi) John-ga ku**reba** Mary-wa kigen-ga warui
(If) John-NOM come.COND Mary-TOP mood-NOM bad.NONPAST
'If John comes, Mary will be in a bad mood.'
b. (Moshi) John-ga kita**ra** Mary-wa kigen-ga warui
(If) John-NOM come.PAST.if Mary-TOP mood-NOM bad.NONPAST
'If John has come, Mary will be in a bad mood.'

[2]For this particular form of verbs (and adjectives), also typically named '*TE*-form' in Japanese textbooks, I call it 'gerundive form', following Kuno (1973) and Hasegawa (1996, p.765).

[3]One of the reviewers has asked if the conditionality can be removed from the unlikeliness meaning. That is, if the sentence (2) could mean 'Even John came, and Mary is unhappy.' This is not available, which suggests that the conditionality is not optional in this structure.

c. (Moshi) John-ga kuru-**nara** Mary-wa kigen-ga
(If) John-NOM come.NONPAST-if Mary-TOP mood-NOM
warui
bad.NONPAST
'If it is the case that John comes, Mary would be in a bad mood.'

Note that all types of conditional clauses optionally take an adverb *moshi*. Although the antecedent clause in (2) does not have any of these overt conditional morphemes, it can take the adverb '*moshi*'. This is not possible without *mo*.

(5) a. (Moshi) John-ga kite-mo Mary-wa kigen-ga warui
(If) John-NOM come.GER-*mo* Mary-TOP mood-NOM bad.NONPAST
'Even if John came, Mary would be in a bad mood.'
b. *Moshi John-ga kite Mary-wa kigen-ga warui
If John-NOM come.GER Mary-TOP mood-NOM bad.NONPAST
Intended: 'If John came, Mary would be in a bad mood.'

Thus, adding *mo* to the gerundive clause makes the clause conditional.

It is not uncommon to find conditionality without an overt conditional morpheme. In English, for example, the conditional meaning arises without a canonical conditional morpheme like *if*.

(6) a. *Pay within a week and you'll get a 10 percent discount.*
(If you pay within a week you get the discount.)
b. *We need to pay the bill today or we won't get the discount.*
(If we don't pay the bill today we won't get the discount.)

(Huddleston and Pullum, 2005)

(7) a. *Standing on a chair, John can touch the ceiling.*
(If he stands on a chair, John can touch the ceiling.)
b. *In first gear, the truck might reach the top of that hill.*
(If it were in first gear, the truck might reach the top of that hill.)

(Stump, 1985)

Stump (1985) adopts possible worlds semantics, namely Kratzer's theory of conditional modality, to account for the conditional meaning in various free adjunct constructions (Kratzer, 1981, 1986). The conditionality is represented by quantification over worlds. For example, a sentence with *must* (8) can be interpreted in different ways, i.e. epistemic (8-a) or deontic (8-b).

(8) *John must be in his office now.*
a. (In view of what is known,) John must be in his office now.
b. (In view of the school regulation,) John must be in his office now.

A context dependent modal like *must* is interpreted with respect to what kind of world we are talking about. The meanings of *must* in (8-a) and (8-b) are different in that respect.

(9) a. (8-a) is true in $w$ iff,
$\forall w' \left[ \begin{array}{l} \text{what is true in } w' \text{ is the} \\ \text{closest to what we know in } w \end{array} \rightarrow \textit{in-office}(J)(w') \right]$
(John is in his office in all those possible worlds which are closest to what is known in $w$.)

b. (8-b) is true in $w$ iff,
$\forall w' \left[ \begin{array}{l} \text{what is true in } w' \text{ is the} \\ \text{closest to what the rule says in } w \end{array} \rightarrow \textit{in-office}(J)(w') \right]$
(John is in his office in all those possible worlds which are closest to what the rule requires in $w$.)

In conditional sentences, the domain of possible worlds is now specified by the antecedent clause. Thus, in the following examples, the *if*-clauses serve as a domain of universal quantification of worlds for the consequent clause to be true.

(10) a. *If you saw his car parked on campus, John must be in his office now* is true in $w$ iff,
$\forall w' \left[ \begin{array}{l} \text{what is true in } w' \text{ is the closest to} \\ \text{what we know in } w \text{ and} \\ \text{John's car was parked on campus in } w' \end{array} \rightarrow \textit{in-office}(J)(w') \right]$

b. *If it is his office hour now, John must be in his office now* is true in $w$ iff,
$\forall w' \left[ \begin{array}{l} \text{what is true in } w' \text{ is the closest to} \\ \text{what the rule requires in } w \\ \text{and it is his office hour in } w' \end{array} \rightarrow \textit{in-office}(J)(w') \right]$

Following Stump (1985), we will extend this modal analysis to the conditional sentences without an overt conditional marking. Let us assume that the modal *would* essentially works the same as *must* as suggested by Stump.[4]

## 2.2 Unlikeliness and 'Even'

*Even* in English is generally considered as a focus sensitive morpheme (Karttunen and Peters, 1979; Giannakidou, 2007). According to Karttunen and Peters (1979), the meaning of (11), which has a focus on *Bill*, indicated by capitals, is a combination of (a-c) in (12).

(11) *Even BILL likes Mary.*

(12) a. Bill likes Mary. (Assersion)
b. Other people besides Bill like Mary. (Existential Presupposition)
c. Of the people under consideration, Bill is the least likely to like Mary. (Scalar Presupposition)

The following shows one way to formalize (12) (cf. Giannakidou (2007); Nakanishi (2006); Yoshimura (2007)).

[4] "**Would** and **might**, according to Kratzer, are interpreted just like **must** and **can**, respectively. [...] **Would** and **might**, furthermore, can be used with **if**-clauses whose propositions are incompatible with 'common knowledge', or the presuppositions of language users[...]" (Stump, 1985, 49-50)

(13) Where $x$ is a variable for individuals, *like-mary*(*Bill*) corresponds to the proposition 'Bill likes Mary', $C$ a set of individuals that is salient in the context,

a. *like-mary*(*Bill*)=1
b. $\exists x \in C[x \neq Bill \wedge \textit{like-mary}(x)]$ (A set of alternatives)
c. $\forall x \in C[x \neq Bill \rightarrow \textit{like-mary}(Bill) <_{likely} \textit{like-mary}(x)]$ (Scalar Presupposition)

Here, the set of alternatives is a set of entities, i.e. the people other than Bill.

On the other hand, Guerzoni and Lim (2007) formalize (12) in another way.

(14) Where $p$ is a variable for propositions, $w$ a possible world, $C$ a set of propositions that has derived from focus assignment, and *Bill-likes-Mary*($w$) corresponds to 'Bill likes Mary in $w'$',

a. *Bill-likes-Mary*($w$)=1
b. $\exists p \in C[p \neq \textit{Bill-likes-Mary}(w) \wedge p(w) = 1]$
c. $\forall p \in C[p \neq \textit{Bill-likes-Mary} \rightarrow \textit{Bill-likes-Mary} <_{likely} p]$

Instead of the set of entities, (14) has a set of propositions. Among the set of propositions, 'Bill likes Mary' is the least likely case. By adopting alternative semantics for focus (Rooth, 1992, 1997), the set of propositions is generated basically by substituting the focused phrase with other relevant phrases. In the case of (11), the set $C$ looks like (15).

(15) $C$={Bill likes Mary, John likes Mary, George likes Mary, ...}

According to them, a concessive conditional in (16), where *John* is focused, is analyzed in the following way.

(16) *Even if JOHN came, Mary would be in a bad mood.*

(17) a. *If John came Mary is in a bad mood*($w$)=1
b. $\exists p \in C[p \neq \textit{If John came Mary is in a bad mood}(w) \wedge p(w) = 1]$
c. $\forall p \in C[p \neq \textit{If John came Mary is in a bad mood} \rightarrow \textit{If John came Mary is in a bad mood} <_{likely} p]$
d. $C$ = {If Bill came Mary is in a bad mood, If Sue came Mary is in a bad mood, If Alex came Mary is in a bad mood, ...}

This shows that (16) means the same as 'if John came Mary is in a bad mood' with a scalar unlikeliness meaning such that 'if John came Mary is in a bad mood' is the least likely proposition among others in $C$.

Guerzoni and Lim (2007) also analyze a case in which an *even-if* sentence does not have an apparent focuse phrase like *JOHN* in the antecedent clause. They posit a phonologically null morpheme AFF, referring to Höhle's (1992) VERUM focus.

(18) Even if John AFF came, Mary would be in a bad mood.

According to them, the null AFF can be focused, in which case the alternative set looks like (19).

(19) $C = \left\{ \begin{array}{l} \text{if John came Mary would be in a bad mood,} \\ \text{if John did not come Mary would be in a bad mood} \end{array} \right\}$

My analysis is not concerned with the AFF morpheme. However, I share the idea that the unlikeliness meaning involves an alternative set of propositions. In the next section, I present my analysis of the Japanese concessive conditionals based on the two basic concepts reviewed in this section.

# 3 A Solution Proposal

## 3.1 The Gerundive Construction

Before presenting an analysis of *mo*, let us first turn to the gerundive construction so that we can add *mo* later and derive the meaning compositionally.

(20) John-ga kite Mary-wa gokigen-da
John-NOM come.GER Mary-TOP happy-is.NONPAST
'John came, and Mary is happy.'

The gerundive construction (20) looks like a coordination, or a conjunction of two propositions. It is true that John came and that Mary is happy. I will further add a notion of normality that derives likeliness. For the speaker who says (20), it is normal for the two events, John's coming and Mary's being in a good mood, to co-occur in a particular world.[5] I implement this normality using quantification over possible world $w'$.

(21) $[\![\text{GER}]\!]^w = \lambda p_{\langle s,t\rangle} \lambda q_{\langle s,t\rangle} \cdot \left[ \begin{array}{c} p(w) \wedge q(w) \wedge \\ \forall w'[[\text{NORM}_w(w') \wedge \textit{john-came}(w')] \rightarrow q(w')] \end{array} \right]$
Where $\text{NORM}_w(w')$ stands for 'what is true in $w'$ is the closest to what we think is normal in $w$'

In case of (20), by substituting $p$ with 'John came in $w$' and $q$ with 'Mary is happy in $w$', we get the meaning (22).

(22) $[\![(20)]\!]^w = \left[ \begin{array}{c} \textit{john-came}(w) \wedge \textit{happy-mary}(w) \wedge \\ \forall w'[[\text{NORM}_w(w') \wedge \textit{john}-\textit{came}(w')] \rightarrow \textit{happy-mary}(w')] \end{array} \right]$

Thus, (20) means that John came and Mary is happy. Furthermore, there is a sense of normality, i.e. in all normal worlds, if John comes Mary is happy. With respect to the normal worlds in which Mary is happy if John came, the coordinated statement 'John came and Mary is happy' is nothing surprising or unlikely.[6]

[5] I set aside an issue of tense. The gerundive form lacks past/non-past morphology, therefore its interpretation of tense is not clear. I assume a free variable for the tense of gerundive clause to be given temporal information in some way.

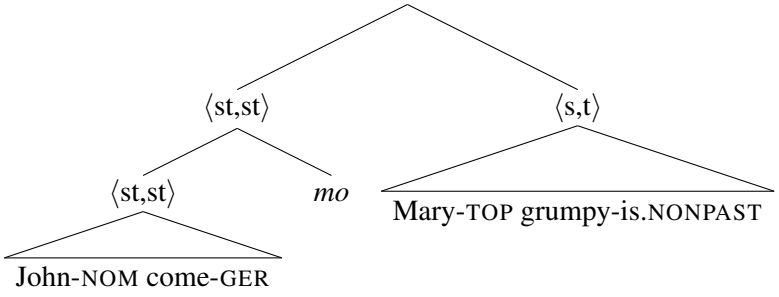
[6] If the two events, John's coming and Mary's being in a good mood, are not expected to be normal things to co-occur, then the conjunction 'but' may be more suitable.
John-ga kita-kedo Mary-wa gokigen-da.
John-NOM come.PAST-but Mary-*top* happy-is.NONPAST
'John came, but Mary is happy.'

## 3.2 Quantification by *MO*

What has been observed in section 1 is that the particle *mo*, being attached to the gerundive clause, introduces conditionality and unlikeliness. I adopt the modal analysis for conditionals (section 2.1), and propose the denotation of *mo* as in (23). It departs from the analyses of *even* in section 2.2, in that it does not have the scalar likeliness representation in a form of $<_{likely}$. It nevertheless derives the unlikeliness meaning of concessive conditionals, as I will explain below.

(23) $[\![mo]\!]^w = \lambda f_{\langle st,st\rangle}\lambda q_{\langle s,t\rangle}.\exists q'[q' \neq q \wedge f(q')(w)] \wedge \forall w'[f(q')(w) \rightarrow q(w')]$

(24)




First, *mo* takes the first argument, a set of propositions $f_{\langle st,st\rangle}$ (the gerundive clause [John-NOM come.GER]).

(25) $[\![mo]\!]^w([\![\textit{John}\text{-NOM }\textit{come}.\text{GER}]\!]^w) = \lambda q.\left[\begin{array}{l}\exists q'[[q' \neq q] \wedge \textit{John-came}(q')(w)] \wedge \\ \forall w'[\textit{John-came}(q')(w) \rightarrow q(w')]\end{array}\right]$

Then, it takes the second argument, a proposition $q_{\langle s,t\rangle}$ (the consequent clause [Mary-TOP grumpy-is.NONPAST]), which yields the concessive conditional (2).

(26) $[\![(2)]\!]^w = [\![\textit{John}\text{-NOM }\textit{come}.\text{GER-}\textit{mo}]\!]^w([\![\textit{Mary}\text{-TOP }\textit{grumpy-is}]\!]^w)$
$= \left[\begin{array}{ll}\exists q'[[q' \neq \textit{grumpy-Mary} \wedge \textit{John-came}(q')(w)] \wedge & \cdots(\text{i}) \\ \forall w'[\textit{John-came}(q')(w) \rightarrow \textit{grumpy}\text{-Mary}(w')] & \cdots(\text{ii})\end{array}\right]$

(27) (2) is true in $w$ iff

a. There is an alternative proposition $q'$ that is not 'Mary is in a bad mood', for instance 'Mary is happy', such that
$[\![\textit{John}\text{-NOM }\textit{come}.\text{GER}]\!]^w(q')$, and ……(i)

b. For all worlds $w'$ such that $[\![\text{John-NOM come.GER}]\!]^w(q')$,
Mary is in a bad mood in $w'$. ……(ii)

It may not be clear where the unlikeliness meaning is in (27). Unlike previous proposals for *even*, my denotation of *mo* does not have a scalar likeliness meaning in a form of $<_{likely}$. For the present analysis, the crucial part which is responsible for the (un)likeliness meaning is the gerundive clause. Let me illustrate (27) in more detail referring to the proposed denotation of the gerundive morpheme.

(28) From (21),
$[\![\textit{John}\text{-NOM } \textit{come}.\text{GER}]\!]^{w}(q')$
$= \left[ \begin{array}{c} \textit{john-came}(w) \wedge q'(w) \wedge \\ \forall w'[[\text{NORM}_{w}(w') \wedge \textit{john-came}(w')] \rightarrow q'(w')] \end{array} \right]$

Suppose $q'$ a proposition such as 'Mary is happy'.[7] (28) is a gerundive sentence, meaning 'John came and Mary is happy'. It also presupposes that 'normally if John came Mary is happy'. In other word, the presupposition 'normally if John came Mary is happy' is what makes the conjunction 'John came and Mary is happy' likely and usual. (i) states an existence of such $q'$. (ii) involves a quantification over possible worlds. The domain of restriction is the presupposed normal worlds $w'$ that has been introduced by the gerundive clause (28).

(29) The meaning of (ii):
$\forall w'[[\![\textit{John}\text{-NOM } \textit{come}.\text{GER}]\!]^{w}(q') \rightarrow [\![\textit{Mary}\text{-TOP } \textit{grumpy-is}]\!]^{w'}]$
$= \forall w' \left[ \left[ \begin{array}{c} \textit{john-came}(w) \wedge q'(w) \wedge \\ \forall w'[[\text{NORM}_{w}(w') \wedge \textit{john-came}(w')] \rightarrow q'(w')] \end{array} \right] \rightarrow \textit{grumpy-Mary}(w') \right]$

This shows that in all worlds $w'$, Mary is in a bad mood. The domain of $w'$ is the normal world that originates from the gerundive clause, in which 'Mary is happy if John came' is considered to be normal. 'Mary is in a bad mood in $w'$' is out of the normal situation that exist at this point. Therefore, it is unexpected with respect to the normality introduced by the gerundive construction.

In this section, I have shown how the combination of the gerundive construction and *mo* derives the concessive conditional meaning, conditionality and unlikeliness, in a compositional way. The key point is that it is not the particle *mo* itself, but is the gerundive clause that can presuppose the normality. In the remaining part of the paper, I consider some other peculiarities of the gerundive clause and *mo* and investigate further issues that still need to be accounted for.

# 4 Further Issues

## 4.1 On MO

One of the things I attempted is not to impose the unlikeliness meaning directly onto the denotation of *mo*. The intuition behind this is that *mo*, just by itself, probably does not inherently have such (un)likeliness meaning. The following examples show that *mo* appears to function as the additive particle 'too' or 'also' without the 'even' meaning.

(30) a. John-**mo** san-ji-ni keeki-o tabeta.
John-*mo* three-o'clock-at cake-ACC eat.PAST
'John ate cake at 3 too.' (Someone besides John ate cake at 3.)
b. John-ga san-ji-ni keeki-**mo** tabeta.
John-NOM three-o'clock-at cake-*mo* eat.PAST
'John ate cake too at 3.' (John ate something besides cake at 3.)

[7] I am simplifying the possible worlds: Mary is either in a bad mood (grumpy) or happy.

c. John-ga san-ji-ni-**mo** keeki-o tabeta.
John-NOM three-o'clock-at-*mo* cake-ACC eat.PAST
'John ate cake at 3 too.' (John ate cake at some other time.)
d. Mary-wa [John-ga keeki-o tabeta]-to-**mo** itteita.
Mary-TOP [John-NOM cake-ACC eat.PAST]-COMP-*mo* say.PAST
'Mary also said John ate cake.' (Mary said something else.)

One might assume that *mo* in (30) and *mo* in concessive conditionals are lexically ambiguous: one for the additive particle that is attached to a noun phrase, and the other for 'even' when it occurs with a gerundive clause.[8]

There are other cases, where *mo* occurs with some specific amount expressions such as 'three pieces' and '18 hours', which results in neither the additive meaning nor the 'even' meaning.

(31) a. John-ga keeki-o san-kire-**mo** tabeta.
John-NOM cake-ACC three-pieces-*mo* eat.PAST
'John ate three pieces of cake.' (Three pieces of cake is a lot!)
b. John-ga juuhachi-jikan-**mo** neta.
John-NOM eighteen-hours-*mo* sleep.PAST
'John slept for 18 hours.' (18 hours of sleep is a lot!)

The sentences in (31) express the speaker's surprise with respect to the amount.[9] If this surprise meaning should also originate from the notion of normality, my attempt to excluding the likeliness meaning from the denotation of *mo* may not be plausible. However, the analysis of (31) requires an investigation of how the numeral/amount expressions work, which goes beyond the topic of this paper.

Another major issue of *mo*, besides the additive meaning and the 'even' meaning, is its property of quantification over variables introduces by *wh*-phrases (Nishigauchi, 1991; Kratzer and Shimoyama, 2002; Shimoyama, 2006).

(32) Dono-gakusee-mo odotta.
Which-student-*mo* danced
'Every student danced.' (Shimoyama, 2006)

According to their view, the *wh*-phrase in (32) provides a set of entities that are students, which will be quantified by *mo*.

(33) a. For $[\![\alpha]\!]^g \subset D_e$, $[\![\alpha \text{ mo}]\!]^g = \{\lambda P \forall x[x \in [\![\alpha]\!]^g \rightarrow P(x) = 1]\}$
b. $\{\forall x[x \in \{y : \text{student}(y)\} \rightarrow \text{dance}(x)]\}$ (Shimoyama, 2006)

The denotation of *mo* in (23) proposed in this paper cannot directly account for this fact. The denotation (23) so far only works for the case where *mo* takes a function from proposition to proposition, a set of propositions, and not an entity or a set of entities.

[8]However, as noted by Giannakidou (2007) and also pointed out by Henk Zeevat (p.c.), the cross-linguistic evidence seems to suggest that it is not an accident for the additive particle and the 'even'-like morpheme to be expressed by the same morpheme.

[9]It can**not** mean 'surprisingly **less**' for unknown reasons.

Again, at this point, we can posit a lexical ambiguity view to this fact too, leaving a comprehensive understanding of the multi-functionality of *mo* for future research.

## 4.2 On the Gerundive Form

At the beginning of the paper, we observed that the meaning of a simple gerundive construction in Japanese looks like a coordination of two clauses.

(3) John-ga kite Mary-wa fukigen-da
John-NOM come.GER Mary-TOP grumpy-is.NONPAST
'John came, and Mary is/will be in a bad mood.'

Unlike the logical conjunction, the proposed denotation of the gerundive clause has a part where the two clauses are in an antecedent-consequent relationship ($\forall w'[\text{NORM}_w(w') \wedge$ *john-came*$(w') \rightarrow q(w')]$) in addition to the conjunctive meaning ($p(w) \wedge q(w)$).

(21) $[\![\text{GER}]\!]^w = \lambda p_{\langle s,t\rangle} \lambda q_{\langle s,t\rangle} \cdot \left[ \begin{array}{c} p(w) \wedge q(w) \wedge \\ \forall w'[\text{NORM}_w(w') \wedge \textit{john-came}(w') \rightarrow q(w')] \end{array} \right]$

This predicts that for any gerundive clause this antecedent-consequent relationship holds in terms of the normal world $w'$. That is, whenever we see a gerundive morpheme, it is presupposed that 'if $p$ then $q$' is normal.

The following shows that the gerundive form appears in various kinds of coordinate constructions.

(34) a. Mary-wa [yasashiku**te**] [kawaii]
Mary-TOP kind.GER cute.NONPAST
'Mary is kind and cute.'

b. John-wa [hon-o yon**de**] [terebi-o mita]
John-TOP book-ACC read.GER TV-ACC watch.PAST
'John read a book and watched TV.'

c. John-wa keeki-o [tsukut**te**] [tabeta]
John-TOP cake-ACC make.GER eat.PAST
'John made and ate the cake.'

Since the proposed gerundive meaning has a property of coordinating two propositions, which can be extended to account for these facts by assuming that they are syntactically derived from a clausal source.

(35) [John-wa keeki-o tsukut**te**] [~~John-wa keeki-o~~ tabeta]
John-TOP cake-ACC make.GER John-TOPcake-ACC eat.PAST
'John made and ate the cake.'

However, the proposed denotation is not extendable to the case where the clausal coordinate structure is less apparent.

(36) a. John-ga nete-iru.
John-NOM sleep.GER-is.NONPAST
'John is sleeping.'

b. John-ga Mary-ni hon-o yonde-ageta.
John-NOM Mary-DAT book-ACC read.GER-give.PAST
'John read a book to Mary.'

Although there is a gerundive form in (36), these do not seem to be derived from coordination of two propositions, as the recovered structures below show.

(37) a. [John-ga nete] [~~John-ga~~ iru].
John-NOM sleep.GER John-NOM is.NONPAST
'John sleeps and John is there.'
b. [John-ga Mary-ni hon-o yonde]
John-NOM Mary-DAT book-ACC read.GER
[~~John-ga Mary-ni hon-o~~ ageta].
John-NOM Mary-DAT book-ACC give.PAST
'John read Mary a book and John gave Mary a book.'

Intuitively, *nete-iru* and *yonde-ageta* form a complex verb rather than having a clausal source. Once again, one option is to assume lexical ambiguity for the gerundive morpheme.

## 4.3 The Notion of 'Normality'

My analysis derived the 'even if' meaning from the gerundive construction and *mo* referring to the notion normality. However, there are some cases in which the same combination of the gerundive clause and *mo* is interpreted not as 'even if' but as part of deontic expression.

(38) a. John-ga kite-mo iidesu-yo.
John-NOM come.GER-*mo* good.NONPAST(POLITE)-*yo*
Lit. 'It is ok for John to come.'/'John may come.' (Permission)
b. John-ga kite-wa ikemasen.
John-NOM come.GER-TOP/CONT disallowed.NONPAST(POLITE)
Lit. 'It is not ok for John to come.'/'John may not come.'(Prohibition)

At a glance, the notion of normality may not be suitable to account for this kind of modal meaning. Nevertheless, since my account for concessive conditionals is based on the conditional modal analysis, the present approach may account for (38-a) having some way to analyze the meaning of permission.[10]

[10]The next further question is why *mo* cannot appear in (38-b) with the prohibition meaning. Stefan Kaufmann asked me if I would like to analogously extend the analysis of *mo* to *wa* in (38-b). At this point, I have no clue, but it will be interesting to investigate the possibility of quantification over possible worlds by the topic/contrastive marker *wa*.

# 5 Conclusion

I presented a puzzle in Japanese where the particle *mo* expresses conditionality and unlikeliness. Based on Karttunen and Peter's (1979) view on 'even', the analysis has incorporated Kratzer-Stump style conditional modality to it in order to derive the conditional meaning and the unlikeliness meaning. By doing this in a compositional way, I show how the conjunctive meaning turns into concessive conditionals. The unlikeliness meaning is explained not by the existence of a morpheme that inherently has the 'unlikeliness' scalar meaning, but as the interaction between the particle *mo* that has a quantificational force and the gerundive clause that provides the notion of normality.

# Acknowledgements

This paper is based on my master thesis "Constructing Concessive Conditionals". I would like to thank my committee members, Cristina Schmitt, Mutsuko Endo-Hudson, and especially Marcin Morzycki for patience and innumerable suggestions at every stage of this project. My thanks also goes to Jan Anderssen, Hsiang-hua Chang, Daniel Hasty, Greg Johnson, Walter Sistrunk, Chris Tremlett, and other LSO members at MSU for helpful feedback and suggestions. All comments at the conference of 13th Sinn und Bedeutung at University of Stuttgart were helpful, and I thank the organizers for their great work. I take full responsibility for the remaining error in this document.

# References

Giannakidou, Anastasia (2007) "The Landscape of EVEN", *Natural Laguage and Linguistic Theory* **25(1)**, 39–81.

Guerzoni, Elena & Lim, Dongsik (2007) "Even if, factivity and focus" *Proceedings of Sinn und Bedeutung* **11**.

Hasegawa, Yoko (1996) "The (Nonvacuous) Semantics of TE-Linkage in Japanese" *Jounal of Pragmatics* **25**, 763–790.

Huddleston, Rodney & Pullum, Geoffrey K (2005) *A Students Introduction to English Grammar* Cambridge University Press.

Karttunen, Lauri & Peters, Stanley (1979) "Conventional Implicature" *Syntax and Semantics* **11**, 1–56.

Kratzer, Angelika (1981) "The Notinal Category of Modality" *Words, Worlds, and Contexts* 38–74.

Kratzer, Angelika (1986) "On Conditionals" *Chicago Linguistic Society* **22**

Kratzer, Angelika & Shimoyama, Junko (2002) "Indeterminate Pronouns: The View from Japanese" *The 3rd Tokyo Conference on Psycholinguistics*

Kuno, Susumu (1973) *The Structure of the Japanese Language* Cambridge, MA: MIT Press.

Nakanishi, Kimiko (2006) "Even, only, and Negative Polarity in Japanese" *The Proceedings of SALT 16*

Nishigauchi, Taisuke (1991) "Construing WH" *Logical Structure and Linguistic Structure* 197–232.

Rooth, Mats (1992) "A theory of Focus Interpretation" *Natural Language Semantics* **1**, 75–116.

Rooth, Matt (1997) "Focus" *The Handbook of Contemporary Semantic Theory* Blackwell Publishers.

Shimoyama, Junko (2006) "Indeterminate Phrase Quantification in Japanese" *Natural Language Semantics* **14(2)**, 139–173.

Stump, Gregory (1985) *The Semantic Variability of Absolute Constructions* D.Reidel Publishing Company.

Yoshimura, Keiko (2007) *Focus and Polarity: 'even' and 'only' in Japanese* Ph.D. thesis, University of Chicago.