Constructing Concessive Conditionals *

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1 Introduction

1.1 A piece of data

(1) SITUATION: Mary is a calm person. She has been hospitalized for a long time. We know that she is especially happy when her boyfriend John came to see her despite her physical condition. Exceptionally, though, it seems that it is not so when she needs to get an injection, which she hates a lot. Today, she is going to have one, so . . .

(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.’

(3) [P . . . V.GER-mo] [Q . . .] 1 ‘Even if P, Q’

1.2 A puzzle

Without mo (cf. (2)):

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

(5) [P . . . V.GER] [Q . . .] ‘P, and Q’ No conditionality

Initial guess: The particle mo is something that introduces conditionality and the ‘even’ meaning (unlikeliness, unexpectedness).

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1GER stands for the ‘gerundive form’ of verbs and adjectives. The syntactic properties may differ from the gerunds in English, however, I use this unfortunate term just because it has been called so traditionally ((Hasegawa 1996a:765) and references therein). ACC=accusative marker, NOM=nominative marker, TOP=topic marker, DAT=dative marker, COND=conditional form

2One 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, however, suggesting that the conditionality is not optional in this structure.
2 Backgrounds

2.1 Conditionality

Some apparent conditional constructions in Japanese (cf. Kuno (1973)):

(6) a. Conditional (r)eba Clauses

(Moshi) John-ga kureba 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. Perfective tara Clauses

(Moshi) John-ga kita tara 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.’

c. Assertive nara(ba) Clauses

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

Adding the adverb ‘moshi’ (optional) to (2) and (4):

(7) a. (Moshi) John-ga kite-mo Mary-wa kigen-ga warui (= 2)
(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 (= 4)
If John-NOM come.GER Mary-TOP mood-NOM bad.NONPAST
Intended: ‘If John came, Mary would be in a bad mood.’

Conditional meaning without an apparent conditional morpheme (e.g. if in English):

(8) 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 & Pullum 2005)

(9) 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)

Kratzer-style analysis on modals, informally (Kratzer (1981)):

(10) John must be in his office now.

a. Epistemic: (In view of what is known,) John must be in his office now.

b. Deontic: (In view of what the school regulation says,) John must be in his office now.
Constructing Concessive Conditionals

(11) a. (10a) is true in \( w \) iff,

John is in his office in all those possible worlds which are closest to what is known in \( w \).

\[ \forall w'[\text{what is true in } w' \text{ is the closest to what we know in } w \rightarrow \text{in-office}(J)(w')] \]

b. (10b) is true in \( w \) iff,

John is in his office in all those possible worlds which are closest to what the rule requires in \( w \).

\[ \forall w'[\text{what is true in } w' \text{ is the closest to what the rule says in } w \rightarrow \text{in-office}(J)(w')] \]

(12) a. If you saw his car parked on campus, John must be in his office now is true in \( w \) iff,

John is in his office in all those possible worlds which are closest to what is known in \( w \).

\[ \forall w' \left[ \text{what is true in } w' \text{ is the closest to what we know in } w \text{ and } \right. \]

John’s car was parked on campus in \( w' \)

\[ \left. \rightarrow \text{in-office}(J)(w') \right] \]

b. If it is his office hour now, John must be in his office now is true in \( w \) iff,

John is in his office in all those possible worlds which are closest to what the rule requires in \( w \).

\[ \forall w' \left[ \text{what is true in } w' \text{ is the closest to what the rule requires in } w \right. \]

and it is his office hour in \( w' \)

\[ \left. \rightarrow \text{in-office}(J)(w') \right] \]

“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 usres[…]” (Stump 1985:49-50)

2.2 The Unlikeliness/Unexpectedness Meaning of ‘Even’

A classic example from Karttunen & Peters (1979)³:

(13) Even BILL likes Mary.

(14) a. Bill likes Mary. (Assertion)

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)


(15) Where \( x \) is a variable for individuals, \( \text{like-mary}(Bill) \) corresponds to the proposition ‘Bill likes Mary’, \( C \) a set of individuals that is salient in the context,

a. \( \text{like-mary}(Bill)=1 \)

b. \( \exists x \in C [x \neq Bill \land \text{like-mary}(x)] \) (A set of alternatives)

c. \( \forall x \in C [x \neq Bill \rightarrow \text{like-mary}(Bill) <_{\text{likely}} \text{like-mary}(x)] \) (Scalar Presupposition)

³Capitalized words indicates focused constituent. Even is supposed to be an operator that does not affect the truth condition of the sentence (13a) but that introduces presupposition (13b-c). The boundary between truth-condition and presupposition is not crucial in my analysis.
Another way to formalize (cf. Guerzoni & Lim (2007)):

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

a. $\text{Bill-likes-Mary}(w)=1$

b. $\exists p \in C[ p \neq \text{Bill-likes-Mary}(w) \land p(w) = 1 ]$ (Existential/Additive Presupposition)

c. $\forall p \in C[ p \neq \text{Bill-likes-Mary} \rightarrow p \text{Bill-likes-Mary} < \text{likely } p ]$ (Scalar Presupposition)

Where $C=\{ \text{Bill likes Mary, John likes Mary, George likes Mary, ...} \}$, a set of alternatives provided by the focus on [Bill].(cf. Rooth’s focus/alternative semantics (Rooft 1997))

Application of the approach by Guerzoni & Lim (2007):

(17) *Even IF JOHN CAME, Mary would be in a bad mood.*

a. If John came, Mary would be in a bad mood.

b. The alternative set: \{ ‘if John came Mary would be in a bad mood’, ‘if John didn’t come, Mary would be in a bad mood’ \}

c. Among the alternatives, ‘if John came Mary would be in a bad mood’ is the least likely than others (i.e. ‘if John didn’t come Mary would be in a bad mood’).

3 Solution proposal

3.1 The Gerundive Construction

Deriving the conjunctive meaning in (4).

(18) *John-ga kite Mary-wa gokigen-da*

John-NOM come.GER Mary-TOP happy-is.NONPAST

‘John came, and (so) Mary is happy.’

Causal relationship between two propositions?

(19) a. *#Dooshite Mary-ga gokigen-na no ka wa shira-nai kedo.*

Why Mary-NOM happy-is no ka TOP know-not.NONPAST though

‘Though I don’t know why she is happy.’

b. *#Mary-ga gokigen-na no wa John-ga kita-kara-ja-nai kedo.*

Mary-NOM happy-is no TOP John-NOM come.PAST-because-is-not.NONPAST though

‘Though (the reason) she is happy is not because John has come.’

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4 Of course, only a part of ‘if’-clause can be focused, e.g. *Even if JOHN came, Mary would be in a bad mood* (Among Bill, George, Bob... etc.). But I will concentrate on the case where the focus is a whole adverbial clause.

5 To be precise, instead of assigning focus to the constituent [if John came], they posit an unpronounced morpheme ‘AFF’, as in [even if John AFF came, Mary would be in a bad mood], such that when it is focus assigned, it gives a two-membered set of alternatives, i.e. \{ If John came Mary would be in a bad mood, If John didn’t come Mary would be in a bad mood \}. For the reason and purpose of their proposal, see Guerzoni & Lim (2007) and Bennett (1982) for some background.

6 The speaker thinks/knows the reason why Mary is happy, i.e. because John came. So, to my intuition, it sounds contradictory if the speaker says (19) after saying (18). However, Hasegawa (1996a,b) claims that such causal meaning in the gerundive construction is cancelable. I will comeback to this notion of causality in section 4.
(20) \[ \text{[GER]} = \lambda p_{(s,t)} \lambda q_{(s,t)} \lambda w. \left( p(w) \land q(w) \land \forall w' [\text{Norm}_w(w') \land \text{John-came}(w') \rightarrow q(w')] \right) \]

Where \( \text{Norm}_w(w') \) stands for ‘what is true in \( w' \) is the closest to what we think it is normal in \( w \)’.

(21) \[ \text{[John-NOM come.GER]} = \lambda q_{(s,t)} \lambda w. \left( \text{John-came}(w) \land q(w) \land \forall w' [\text{Norm}_w(w') \land \text{John-came}(w') \rightarrow q(w')] \right) \]

Let \( p \) be ‘John came in \( w \)’ and \( q \) be ‘Mary is happy in \( w \)’.

A very simple-minded structure of what we know about the situation (just for an illustration):

(22) \[ w \in \{ W : w_1, w_2, w_3, w_4 \} \]
   
   a. \( \text{[John-came]} = \{ w_1, w_2 \} \)
   b. \( \text{[Mary-happy]} = \{ w_1, w_3 \} \)
   c. \( \text{[Mary-grumpy]} = \lnot \text{[Mary-happy]} = \{ w_2, w_4 \} \)
   d. \( \text{[John-came} \land \text{Mary-happy]} = \{ w_1 \} \)
   e. \( \text{[John-came} \land \lnot \text{Mary-happy]} = \{ w_1, w_3, w_4 \} \)

<table>
<thead>
<tr>
<th></th>
<th>John-came</th>
<th>Mary-happy</th>
<th>¬Mary-happy</th>
<th>John-came ∧ Mary-happy</th>
<th>John-came ∧ ¬Mary-happy</th>
</tr>
</thead>
<tbody>
<tr>
<td>( w_1 )</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>( w_2 )</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>( w_3 )</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>( w_4 )</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

(18) is true iff two events/situations ‘John came’ and ‘Mary is in happy’ are both true in \( w \), i.e. \( w_1 \).

This is included in what is supposed to be ‘normal’ according to (21), i.e. \( w_1, w_3 \) or \( w_4 \). So no surprise, expected in the background context, no unlikeliness meaning.

### 3.2 Quantification by MO

(24) \[ \text{[mo]} = \lambda f_{(s,t)} \lambda q_{(s,t)} \lambda w. q(w) \land \exists q'[q' \neq q \land f(q')(w)] \land \forall w' [f(q')(w) \rightarrow q(w')] \]

(25)

\[
\begin{tikzpicture}
  \node (st,st) at (0,0) {st, st};
  \node (st,mo) at (1,0) {st, mo};
  \node (st,grumpy) at (2,0) {st, Mary grumpy};
  \node (mo,ger) at (3,0) {mo, John comeGER};
  \node (grumpy,ger) at (4,0) {grumpy, Mary comeGER};

  \draw (st,st) -- (st,mo);
  \draw (st,mo) -- (st,grumpy);
  \draw (st,grumpy) -- (mo,ger);
  \draw (mo,ger) -- (grumpy,ger);
\end{tikzpicture}
\]

(26) \[ \text{[mo]}(\text{[John-ga come.GER]}) = \lambda q_{(s,t)} \lambda w. \left( q(w) \land \exists q'\left[ q' = \lnot q \land \text{[John-ga come.GER]}(q'(w)) \land \forall w' \lbrack \text{[John-ga come.GER]}(q'(w)) \rightarrow q(w') \rbrack \right] \right) \]

Let \( q \) be ‘Mary is in a bad mood’.

(27) \[ \text{[\{\}]} = \lbrack \text{John-ga come.GER} \land \text{mo} (\lbrack \lbrack \text{Mary-TOP grumpy-is} \rbrack \rbrack) \rbrack \]

\[ = \lambda w. \left( [\lbrack \text{Mary-TOP grumpy-is} \rbrack](w) \land \exists q'\left[ q' = \lnot [\lbrack \text{Mary-TOP grumpy-is} \rbrack] \land [\text{John-ga come.GER}](q'(w)) \land \forall w' \lbrack [\text{John-ga come.GER}](q'(w)) \rightarrow [\text{Mary-TOP grumpy-is}](w') \rbrack \right] \right) \]

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7I am setting aside the fact that the gerundive clause lacks tense.

8Of course, this is too simplistic. For Mary to be either happy or grumpy and nothing else is unrealistic too.
(28)  
   a. (27 i) Mary is in a bad mood in \( w \).
   
   b. (27 ii) Existential Meaning (Alternatives):
      There is a proposition \( q' \) other than ‘Mary is in a bad mood’ (e.g. ‘Mary is happy’ in (23)) such that, in view of what we think it is normal, \( q' \) occurs given John’s coming.
      
      \[
      \exists q'[\lnot \text{mary-grumpy} \land [\text{John-ga come.GER}(q')(w') = 1]]
      = \exists q' \left[ \lnot \text{mary-grumpy} \land \forall w' (\text{Norm}_w(w') \land \text{john-came}(w') \rightarrow q'(w')) \right]
      \]
      
   c. (27 iii) Unlikeliness Meaning:
      For all worlds \( w' \) that has been derived from (27b), Mary is in a bad mood in \( w' \).
      
      \[
      \forall w'[\lnot \text{mary-grumpy}(w) \land \text{john-came}(w) \land q'(w') \land \forall w'' (\text{Norm}_w(w') \land \text{john-came}(w') \rightarrow q'(w''))]
      \]
      
(29) ‘Even if John came, Mary would be in a bad mood.’
   
   a. Mary is in a bad mood in a world \( w \).
   
   b. Normally, if John came, Mary is not in a bad mood.
   
   c. But, in all those worlds that we thought it was normal given John’s coming, Mary is in a bad mood.

4 Some Implication

4.1 On MO

Mo without the notion of unlikeness:

(30)  
   a. \text{John-mo san-ji-ni keeki-o tabeta.}
      John-mo three-o’clock-at cake-ACC eat.PAST
      ‘Also John ate cake at 3.’ (Presupposes: There is someone else who ate cake at 3.)
   
   b. \text{John-ga san-ji-ni keeki-mo tabeta.}
      John-NOM three-o’clock-at cake-mo eat.PAST
      ‘John ate cake too, at 3.’ (Presupposes: There is something else that John ate at 3.)
   
   c. \text{John-ga san-ji-ni-mo keeki-o tabeta.}
      John-NOM three-o’clock-at-mo cake-mo eat.PAST
      ‘John ate cake at 3 too.’ (Presupposes: John ate cake at some other time.)
   
   d. \text{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.’ (Presupposes: Mary said something else.)

Stipulation: The unlikeness/abnormality appears when \text{mo} attaches to a constituent that is not marked with case (structural/morphological) or postposition.\(^9\)

\(^9\)This is probably wrong. Counter example: \text{Kyoo-mo John-ga keeki-o tabeta.} ‘John ate cake today too (he ate yesterday too).’ \text{Kyoo} ‘today’ does not take any case or postpositional marker.
(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.’ (Eating three pieces of cake is surprisingly a lot!)

b. **John-ga juuhachi-jikan-mo neta.**
   John-NOM eighteen-hours-mo sleep.PAST
   ‘John slept for 18 hours.’ (Sleeping 18 hours is surprisingly a lot!)


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

(33) a. * **Dono-gakusee-ga odotta.**
    Which-student-nom danced
    Intended: ‘Which student danced?’

b. **Dono-gakusee-ga odotta no?**
    Which-student-NOM danced Q
    ‘Which student danced?’

Mo universally quantifies variables introduced by the indeterminate pronouns (e.g. dono).

(34) 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)

Replacing \(x\) of type \(e\) above to \(w\) (though no unlikeliness still):

(35) For \([\alpha]^g \subset D_{st}, [\alpha \text{ mo}]^g = \{\lambda q_{(s,t)} \forall w [w \in [\text{john-came}]^g \rightarrow q(w) = 1]\}\}

4.2 Gerundive Forms in General

(36) a. **Mary-wa yasashikute kawai.**
    Mary-TOP kind.GER cute.NONPAST
    ‘Mary is kind and cute.’

d. **John-wa hon-o yonde terebi-o mita.**
    John-TOP bookACC read.GER TV-ACC watch.PAST
    ‘John read a book and watched TV.’

c. **[John-ga kite] Mary-ga kaeru.**
    John-NOM come.GER Mary-NOM went home.NONPAST
    ‘John comes and Mary goes home.’

(As an answer to: What usually happens in the office while I am out?)

d. **[John-wa kite] Mary-wa kaeru.**
    John-TOP come.GER Mary-TOP return.NONPAST
    ‘John comes and Mary returns(goes home).’

(As an answer to: Do both John and Mary usually join the reception after the talk?)

\(^{10}\) However, it cannot mean ‘surprisingly less’.
Kuno’s (1973) generalization: for any gerundive construction $S_1$-GER $S_2$, if $S_1$ and $S_2$ had different subjects, the sentence is coordination and not subordination, except when $S_1$ and $S_2$ are in causal relationship. In such a case, $S_1$ is a subordinate clause of $S_2$.

\[(37)\]
\[
\begin{align*}
&\text{a. } [\text{John-ga kite}] \quad \text{Mary-ga kaeru.} \\
&\text{John-NOM come.} \text{GER Mary-NOM go home.} \text{NONPAST} \\
&\text{‘John comes and Mary goes home.’}
\end{align*}
\]

\[
\begin{align*}
&\text{b. } \text{Mary-wa } [\text{John-ga kite}] \quad e_i \text{ kaeru.} \\
&\text{Mary-TOP John-NOM come.} \text{GER return.} \text{NONPAST} \\
&\text{‘John comes, and (then/so) Mary goes home.’}
\end{align*}
\]

Some other non-clausal gerundive forms:

\[(38)\]
\[
\begin{align*}
&\text{a. } \text{John-ga nete-iru.} \\
&\text{John-NOM sleep.} \text{GER-is.} \text{NONPAST} \\
&\text{‘John is sleeping.’}
\end{align*}
\]

\[
\begin{align*}
&\text{b. } \text{John-ga Mary-ni purezento-o katte-ageta.} \\
&\text{John-NOM Mary-DAT present-ACC buy.} \text{GER give.} \text{PAST} \\
&\text{‘John bought a present for Mary.’}
\end{align*}
\]

4.3 The Notion of ‘Normality’

Conversational background other than ‘$\text{NORM}_{w(w)}$’?

\[(39)\]
\[
\begin{align*}
&\text{a. Deontic ‘may’} \\
&[\text{John-ga kite-mo}] \quad iidesu-yo. \\
&\text{John-NOM come.} \text{GER-mo good.} \text{NONPAST(POLITE)-yo} \\
&\text{Lit. ‘It is allowed/ok for John to come.’} \\
&\text{‘John may(is allowed to) come.’}
\end{align*}
\]

\[
\begin{align*}
&\text{a. Deontic ‘may not’} \\
&[\text{John-ga kite-wa}] \quad ikemasen. \\
&\text{John-NOM come.} \text{GER-wa disallowed.} \text{NONPAST(POLITE)} \\
&\text{Lit. ‘It is not allowed/ok for John to come.’} \\
&\text{‘John may not (is not allowed to) come.’}
\end{align*}
\]

5 Conclusion

I introduced a puzzle in Japanese where the particle $mo$ brings conditionality and unlikeliness. Based on Karttunen and Peter’s (1979) view on ‘even’, I 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 proposed how the conjunctive meaning turned into concessive conditionals. The unlikeliness meaning was explained not by the existence of a morpheme that inherently has ‘unlikeness’ scalar meaning, but by the interaction between the particle $mo$ and the adverbial clause in terms of conditional modality.
References


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