SETSUKO ARITA

Conditionals and Modals in Japanese:
'Settledness' as an Interface between Tense and Modality

Abstract

This paper argues that the semantic notion of 'settledness', i.e. the determinedness of the truth-value of a proposition already at the time of utterance, can be used as an interface between tense and modality. Modern Japanese has at least four basic conditional forms: *-eba*, *-(ta)ra*, *-nara* and *-nonara*. They are distinguished from each other by their temporal characteristics. The first marker, *-eba*, is an inflectional ending of a predicate. The *-eba* clause does not involve a tensed form. The second form, *-(ta)ra*, involves a past/perfect form *-ta*. The third form, *-nara*, can follow both the *-u* and *-ta* forms. Finally, the last form, *-nonara*, can also follow both the *-u* and *-ta* forms. This paper shows that settledness is denoted only in those syntactic environments where both past and non-past tense forms can appear. We also argue that the notion of settledness is crucial for the semantic classification of conditionals.

Keywords: Japanese language, conditionals, modality, tense, settledness

1. Introduction

This paper explores the treatment of the semantic notion of 'settledness' as an interface between tense and modality, by examining how temporal and modal expressions are distributed in conditional clauses in Japanese. What we mean by 'settled' is that the truth-value of a proposition is already determined at the time of utterance. As will be discussed later, settledness divides open conditionals into two classes: predictive and epistemic. Open conditionals, as their name indicates, do not show whether the proposition in the conditional clauses is true or not; in contrast, hypothetical conditionals convey implicitly or explicitly the speaker's belief that the antecedent will not be carried out in the future or does not exist or was not realized.

The aims of this paper are both empirical and theoretical. First, I will show that settledness is denoted only in those syntactic environments where both past and non-past tense forms can appear in Japanese. As will be discussed later, Japanese has two types of tensed clauses: 'complete tensed clauses' and 'incomplete tensed clauses'. Only in the former can both past and non-past tense forms appear, while in the latter either past or non-past forms occur, or neither past nor non-past is allowed. Japanese conditional clauses are grouped into complete-tensed conditional clauses and incomplete tensed clauses.

The antecedent of the epistemic conditional, which is one type of open conditional mentioned above, is realized by complete tensed clauses, while the antecedent of the predictive conditional clause has the form of incomplete tensed clauses.

Second, I will demonstrate that one of the conditional forms, -*nonara*, is a special marker of epistemic conditional antecedents. Epistemic conditionals, as will be discussed later, are those where the antecedent is settled and the speaker does not know or pretends not to know whether it is true or not. I will also propose how the semantic notion of settledness and the speaker's knowledge state, i.e. the fact that s/he does not know the truth, should be treated in the grammar of Japanese.

In the remaining part of this introduction, I shall briefly review some background facts on the two types of open conditionals (Sect. 1.1), provide further data to clarify the generality of the problem (Sect. 1.2), and outline my proposal (Sect. 1.3).

1.1. Two types of open conditionals

This paper focuses mainly on 'direct conditionals', where 'the truth of the proposition in the matrix clause is a consequence of the fulfillment of the condition in the conditional clause' (Quirk et al. 1985: 1088). 'Indirect conditionals', where the condition is not related to the content described in the matrix clause (Quirk et al. 1985: 1089) are excluded from this study.

(1) Direct Conditionals
a. If you put the baby down, she'll scream.
b. If you don't put the baby down, she won't scream.
(2) Indirect Conditionals
a. She's far too considerate, if I may say so.
b. She and I are just good friends, if you understand me.

Although we admit that the latter type of conditional appears quite frequently in both spoken and written contexts (Ono and Jones 2005), our current concern is limited to the direct uses of conditionals.

In most works on (direct) conditionals, open and hypothetical classification is widespread. Quirk et al. define these conditionals as follows (1985: 1091):

Open conditionals are neutral: they leave unresolved the question of the fulfillment or nonfulfillment of the condition […] A hypothetical condition, on the other hand, conveys

the speaker's belief that the condition will not be fulfilled (for future conditions), is not fulfilled (for present conditions), or was not fulfilled (for past conditions) […]

    (3)   If Collins is in London, he is undoubtedly staying at the Hilton. (Open)

    (4)   If he changed his opinion, he'd be a more likeable person. (Hypothetical)

As is well known, in English and many other Indo-European languages, counterfactuality or low probability is grammatically marked by either verbal inflection, such as a backshifted tense as exemplified in (4), or subjunctive mood. Notice that counterfactuality is treated as 'high degree of hypotheticality' in this definition. On the other hand, the neutral antecedent is not especially marked but designated by the same verbal inflectional and/or mood system as in the main clauses exemplified in (3).

Some recent works on conditionals emphasize that the open conditionals are not uniform. Kaufmann (2005) points out that these examples are distinguished by uncertainty of the protasis. Let us consider examples (5) and (6).

(5) I will be happy if we find a solution.

(6) [I hope Dortmund won their home match yesterday.]
     If they did, they still have a chance of winning the championship.

According to Kaufmann, in example (5), whether we find a solution in the future or not is uncertain for everyone at the time of speaking. On the other hand, in (6) whether Dortmund won their home match yesterday or not was established at the time of speaking, but the speaker does not have enough information to affirm or deny it. To capture the difference of uncertainty in protasis, I will introduce the notion of settledness.

2. Settledness and Speaker's Knowledge

2.1. Settledness

Time proceeds from the past to the future. The time of utterance divides the past from the future. We intuitively know that we cannot change the past but that we can change the future. In other words, we perceive that asymmetry exists between the past and future. The asymmetry implies that the truth-value of a proposition depends on time.

    (7)   Dortmund won their home match (yesterday).

    (8)   Robert is in the locker room (now).

    (9)   Dortmund will win the Bundesliga championship (in this season).

For example, the truth-value of the propositions in (7) and (8) have already been determined objectively at the time of utterance regardless of our state of knowledge. On

the other hand, the truth-value of (9) will be determined by the 'fact' in the future. We can say that the truth-value of the propositions depends on time.

The dependency relation between the time and the truth-value of the proposition can be captured in forward branching T x W frames, Thomason's (1984) world-time model was elaborated by Condoravdi (2002: 81). The basic idea of the world-time model, according to Condoravdi, is to have worlds be complete histories through time and have multiple copies of those worlds with an identical past and a distinct future.
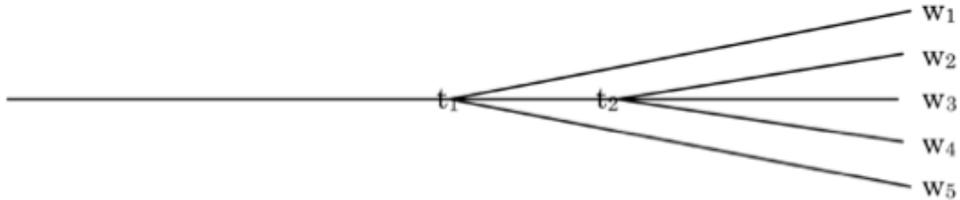

Figure 1

Figure 1 shows that the possible worlds, w_1, w_2, w_3, w_4, w_5, are not distinguished from each other until the point in time t_1. It is possible that they differ from each other after that time. In other words, the sentence is assigned the same truth-value in the worlds, w_1, w_2, w_3, w_4, w_5, until the t_1, but it does not necessarily have the same value in those worlds after that time. The possible worlds w_1, w_2, w_3, w_4, w_5 are called 'historical alternatives' at the time of t_1. The worlds w_2, w_3, w_4 are historical alternatives at the time t_2 as well. According to this definition, both w_1 and w_5 do not have any historical alternatives other than themselves at the time t_2 (Condoravdi 2002: 81).

Subsequently, we shall define the semantic notion, 'settledness', which is crucial for discriminating two types of open conditionals. A proposition is settled if it has the same truth-value, i.e. 1 (true) or 0 (false), in all historical alternatives at the time of utterance. For instance, the truth-value of the propositions in the sentences (7) and (8) above are determined as 1 or 0 at the time of speaking, thus they are settled sentences. On the other hand, the sentence (9) is not settled because its truth value is not determined at the time of speaking.

Not all simple present sentences describe a present situation, as is well known. In English, the simple present tense of non-stative predicates basically does not describe the present, but a future situation. Sentences like (10) can be treated as settled when their truth can be deduced from past and present facts together with natural laws that can be considered deterministic. Sentences like (11) and (12) can be considered settled when they have a scheduling reading. We will collectively call the propositions that are denoted by these sentences 'settled propositions in a broad sense'.

(10) The sun sets at 6:30 tomorrow. (Weather news)
(11) The plane leaves for Ankara at 8 o'clock tonight. (Flight schedule)
(12) Prime Minister Abe goes to U.S.A. next week. (Diplomatic calendar)

Now let us introduce another essential notion, 'speaker's knowledge'. Settledness, whether in a narrow or broad sense, is defined independently of what the speaker knows. The truth-values of settled propositions are determined at the time of speaking, but the speaker might not know all of them. Settledness can thus be defined relative to the speaker's knowledge. A proposition is settled for the speaker if s/he knows its truth-value.

(13) Lewis came to the office yesterday.
(14) Lewis comes to the office tomorrow (according to the schedule).
(15) Lewis may/must have come to the office yesterday.
(16) Lewis may/must come to the office tomorrow.

In English, for example, simple past/present sentences like (13) and (14) should be treated as conveying that the speaker knows the truth-value of the proposition, or has enough information to presume its truth-value of the proposition. On the other hand, sentences with modal auxiliaries like (15) and (16) say explicitly that the speaker does not know the truth-value of the settled proposition. We call such propositions, in which the truth-value is known to the speaker at the time of utterance, 'subjectively settled' and we distinguish them from settled propositions whose truth value is not known to the speaker at the time of utterance. The latter are referred to as 'objectively settled'.

3. Settledness and Conditionals

Now let us classify the conditionals in terms of settledness of the antecedent, as shown in Table 1 below. The unsettled antecedent characterizes the first type exemplified in (17). We call this type 'predictive conditionals'. The second type is defined as conditionals whose antecedents are objectively settled but not subjectively settled, that is, their truth-values are unknown to the speaker, as exemplified in (18). We call them 'epistemic conditionals.' The third type is also characterized as settled antecedents, but they are different from the epistemic conditionals in that their antecedents are subjectively settled, as exemplified in (19) and (20). More strictly speaking, the speaker knows that the antecedent is false. We call these 'counterfactual conditionals.'

Table 1

	Settledness in antecedent	Settledness for speaker in antecedent
Predictive Conditionals	Unsettled	Unsettled
Epistemic Conditionals	Settled	Unsettled
Counterfactual Conditionals	Settled	Settled

(17) I will be happy if we find a solution.
(18) (I hope Lech Poznan won their home match yesterday.) If they did, they still have a chance of winning the championship.
(19) If he changed his opinion, he'd be a more likeable person. (Quirk et al. 1985: 1091)
(20) If you had listened to me, you wouldn't have made so many mistakes. (Quirk et al. 1985: 1091)

In the next section, we will analyze Japanese conditionals from the viewpoint of the factors in the Table 1.

4. Settledness and Conditionals in Japanese

4.1. Tense forms and conditional forms in Japanese

Before considering Japanese conditionals, let us quickly review tenses and settledness in Japanese. Japanese is an SOV language – that is, a verb-final language – thus tense, aspect and modal markers are generally manifested as verb suffixes. The morpheme *-(r)u*, non-past morpheme, and *-ta*, past, have been considered as tense forms in Japanese linguistic literature. Japanese has no overt present-tense morpheme. Japanese has no future auxiliaries equivalent to "will" in English. Future-oriented interpretations are usually expressed by non-stative bare *-(r)u* sentences, whereas present interpretations are designated by the stative sentences.

(21) *Taroo-ga   ringo-o   tabe-ta*.
Taro-NOM[1]   apple-ACC   eat-PAST
'Taro ate an apple.'
(22) *Taroo-wa   asita   Tookyoo-ni ik-u*.
Taro-TOP   tomorrow   Tokyo-to   go-N.PAST
'Taro will go to Tokyo tomorrow.'
(23) *Mukoo.ni   Taroo-ga i-ru*.
Over there   Taro-NOM be-N.PAST
'Taro is over there.'

The verbal stem (*tabe* 'eat') *-ta* in (21) indicates the event in the past. The verbal stem of non-stative predicates (*ik* 'go') *-u* as in (22) refers a future event while the verbal stem of stative predicates (i 'be') *-ru* as in (23) describes a present state.

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[1]   The following abbreviations are used in this paper: ACC=accusative, ASP=aspect, COND=conditional, GEN=genitive, MOD=modal, NEG=negation, NOM=nominative, N.PAST=non-past, PAST=past, POL=polite, TOP=topic.

The tense system in adverbial clauses is not as simple as in major clauses, but we cannot go into detail because of limited space. For the moment, suffice it to say that tensed subordinate clauses should be divided into 'complete tensed clauses' and 'incomplete tensed clauses', the latter being distinguished from 'non-tensed clauses'.

Let us consider some examples:

(24) *Gyuunyuu-wo   nomi-nagara,   terebi-wo   mi-tei-ta.*
Milk-ACC   drink-while   television-ACC   watch-ASP-PAST
'I watched TV while drinking milk.'

(25) *__Kodomo-ga__   gyuunyuu-wo   nomi-nagara,   hahaoya-ga*
Child-NOM   milk-ACC   drink-while   mother –ACC
terebi-wo   mi-tei-ta.
television-ACC   watchi-ASP-PAST
'A mother was watching TV while her child was drinking milk.'

(26) *__Kimi-ga__   it-temo,   Taroo-wa   ika-na-i-daroo.*
You-NOM   go-even   Taro-TOP   go-NEG-N.PAST-MOD
'Even if you go, Taro will not go.'

(27) *__Kimi-ga__   ik-u-noni,   Hanako-wa   ika-na-i-to*
You-NOM   go-N.PAST-although   Hanako-TOP   go-NEG-N.PAST-that
it-tei-ru.
say-ASP-N.PAST
'Although you go, Hanako says that she is not going.'

(28) *__Taroo-ga__   it-ta-noni,   Hanako-wa   ika-nakat-ta.*
Taro-NOM   go-PAST-although   Hanako-TOP   go-NEG-PAST
'Although Taro went, Hanako did not go.'

The underlined part of each example is an adverbial clause. First of all, the *nagara* 'while' clause in (24) should be distinguished from other adverbial clauses in that it cannot include a nominative independent from the main clause, as shown in (25). *Temo* 'even if' and *noni* 'although' clauses can include a nominative that is independent from the main clauses as seen in (26), (27) and (28). It is often pointed out cross-linguistically that the nominative appears in the tensed clause. Thus, the *nagara*-clause in Japanese should not be treated as tensed but as non-tensed.

Secondly, *temo*-sentences cannot describe such a temporal relation as the main clause event occurs prior to the subordinate clause event. However, *noni*-sentences can do this:

(29) *Asu-no   nitiyoobi-ni   sigoto-si-temo,*
tomorrow-GEN   Sunday-on   work-do-even
kyoo-mo   osoku-made   sigoto-si-nakerebanaranai.
today-also   late-until   work-do-have.to
'Even if I work tomorrow, I still have to work until late today.'

(30) *Asu-no*   *nitiyoobi-ni*   *sigoto-su-ru-noni,*
      tomorrow-GEN   Sunday-on   work-do-N.PAST-although
      kyoo-mo   *osoku-made*   *sigoto-si-nakerebanaranai.*
      today-also   late-until   work-do-have.to
      'Although I will work tomorrow, I still have to work until late today.'

The *temo*-clause event necessarily occurs prior to the main clause event; on the other hand the *noni*-clause event can occur either prior to or after the main clause event being marked by an appropriate tense morpheme. This leads us naturally to conclude that the *temo*-clause is 'incomplete' as a tensed clause compared with the *noni*-clause. A *temo*-clause and *noni*-clause can be clearly distinguished with respect to whether or not both non-past and past tense morphemes can be included. The characteristics of *temo*-clauses shown above are shared with other adverbial clauses that do not include either non-past or past forms. Therefore, it is natural to divide tensed adverbial clauses in Japanese into two types: 'complete tensed clauses' and 'incomplete tensed clauses', and only in the former can both past and non-past tense morphemes appear. This distinction, as discussed below, is crucial for classification of Japanese conditionals.

Now let us go into Japanese conditionals. Japanese has at least four basic conditional forms: *-eba*, *-tara*, *-nara* and *-nonara*[2]. *-Eba* and *-tara* are inflectional forms of predicates. The clauses introduced by *-eba* do not include either *-(r)u* or *-ta*; *-tara* clauses include the *ta*-form only, if *ta* of *-tara* is treated as a past tense form; *-nara* and *-nonara*, on the other hand, follow both the *-(r)u* and *-ta* forms. My first claim is that the difference in distribution of tense forms between *eba/tara* clauses and *nara/nonara* clauses is closely connected with the semantic notion of 'settledness'. In other words, the distinction between incomplete and complete tensedness is crucial for the settledness of antecedents in Japanese.

4.2. Predictive Conditional Clauses in Japanese

Predictive conditional clauses in Japanese are depicted by *-eba* or *-tara* clauses[3] shown in (31) and (32).

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[2] *-To* is often included in basic conditional forms. Its conditional uses are, however, much more limited than those of the other four forms. See details in Arita (1999) and Hasunuma et al. (2001).

[3] Since this paper focuses on the differences between complete tensed and incomplete tensed conditional clauses, I did not make distinctions between the two options constructing incomplete-tensed conditional clauses, *-eba* and *-tara*. The distinctions between them are still very important semantically and pragmatically. Some usages of *tara*-conditionals in modern Japanese should be divided into two categories, temporal and conditional, which are strongly related to historical change of Japanese conditionals. Old Japanese had *tareba*, with a temporal meaning, and *-taraba*, with a conditional meaning, but in modern Japanese, *tareba* has disappeared and temporal and conditional meanings are conveyed by the *-tara* form. *-eba* does not have such a temporal meaning as *-tara* has. This form expresses a typical conditional relation between two states of affairs based on theoretical relations or natural laws.

(31) *Mosi*   *kaiketusaku-ga*   *{mitukar-eba/mituka-t-tara}*,
     Supposing   solution-NOM   be.found-COND
     uresii-des-u.
     happy-be.POL-N.PAST
     'If a solution is found, I will be happy.'

(32) *Keiki-ga*   *{warukunar-eba/warukunat-tara}*
     business-NOM   decline--COND
     nihon.keizai-wa   *hatansur-u-daroo*.
     Japanese.economy-TOP   collapse-N.PAST-MOD
     'If business declines, the Japanese economy will go into recession.'

In (31), whether or not the antecedent 'a solution is found' is true is not settled at the time of utterance. In (32), whether or not the business declines is not settled either at the time of speaking. *-Eba* and *-tara* are found in those antecedents.

-nara could be accepted by some speakers in the same situation only when it follows the *ta*-form as seen in (33). For those speakers, the *ta*-form in a *nara*-clause could function not as a past tense but as a perfect aspect like the *ta*-form in a *tara*-clause. Besides, there are other speakers that do not think there are any differences between *ta-nara* and *ru-nara* in appearing predictive conditionals. For those speakers, the differences of temporal meaning between *-ta* and *-(r)u* of the predictive *nara*-clauses could be neutralized.

(33) *Mosi*   *kaiketusaku-ga*   *{mituka-t-ta-nara/*mitsukar-u-nara}*,
     Supposing   solution-NOM   be.found-PAST-COND
     uresii-des-u.
     happy-be.POL-N.PAST
     'If a solution is found, I will be happy.'

In sum, *-ta* in predictive *nara*-clauses denotes the future for some speakers. And for more limited group of speakers, the difference between past tense and non-past tense forms is neutralized in predictive *nara*-clauses. We could say that a tense morpheme of an unsettled *nara* clause is an instance of fake tense.

On the other hand, *-nonara* cannot be used in predictive conditional clauses.

(34)**Mosi kaiketusaku-ga {mitukar-u-nonara/mitukat-ta-nonara} uresii-des-u*.
     'I will be happy if a solution is found.'

This means that neither *-ta* nor *-ru* in *nonara* clauses can denote the unsettled proposition. In other words, *-ta* in *nonara* clauses always designates the past state of affairs and *-ru* in *nonara* clauses presumably refers to decided future. Therefore, *-nonara* cannot be used in predictive conditional clauses.

4.3. Epistemic Conditional Clauses in Japanese

Now let us consider the epistemic conditionals in Japanese. As explained in section 3, a settled antecedent whose truth-value is objectively determined but is unknown to the speaker characterizes an epistemic conditional. There are two groups of settled protases; settled present/past protases and settled future protases.

The settled present/past antecedent is described by *nara*/*nonara* clauses shown in (35) and (36).

(35) *Mosi*   *Taroo-ga*   *Rondon-ni ir-u-{nara/nonara}*,
     Supposing   Taro-NOM   London-in be-N.PAST-COND
     matigai.naku   *Hiruton-ni*   *syukuhaku.si-teir-u*.
     surely   Hilton-in   stay-ing-N.PAST
     'If Taro is in London, he is undoubtedly staying at the Hilton.'

(36) *Mosi*   *Pozunan-ga*   *kinoo*   *ka.t-ta-{nara/nonara}*
     Supposing   Poznan-NOM   yesterday   win-PAST-COND
     yuusyoo.sur-u   *tyansu-ga ar-u*.
     championship   chance-NOM be-N.PAST
     'If Lech Poznan won the match yesterday, they still have a chance of winning the championship.'

The example (35) is uttered in the situation that the speaker does not know whether or not Taro is in London at the time of utterance. The *(r)u*-form of the stative predicates followed by *-nara*/*nonara* is the most appropriate form for this situation. The example (36) designates a situation in which the speaker does not know whether or not Lech Poznan won the game on the day prior to the utterance time. The *ta*-form of the predicates followed by *-nara*/*nonara* is the best for such discourse.

On the other hand, *eba*/*tara* clauses are limited to use in such settled past antecedents. As shown in (37), they can be used in epistemic conditionals only in the case that they accompany the imperfective aspect morpheme *-tei*. Without *-tei*, neither *-eba* nor *-tara* can denote settled protasis. *-Nara* and *-nonara* designate settled protases without *-tei*, needless to say.

(37) *Mosi*   *Pozunan-ga kinoo {*kat-eba/*kat-tara/kat-teir-eba/kat-tei-tara}*
     Supposing   Poznan-NOM yesterday win-PAST-COND
     yuusyoo.sur-u   *tyansu-ga*   *ar-u*.
     chanmpionship   chance-NOM   be-N.PAST
     'If Lech Poznan won the match yesterday, they still have a chance of winning the championship.'

Here, the imperfective aspect morpheme *-tei* in incomplete tensed clauses appears to work similarly to the past form *-ta* in nara/nonara clauses.

Regarding the temporal meaning of the *tei*-form, Ogihara (1998) proposes that the morpheme *-te* of *-tei* has a perfective feature. He categorizes *-te* into *te* [-perfect] and *-te* [+perfect]. When *-te* has the feature [-perfect], the interpretation of the predicate with *-tei* has two options: 'on-going state' or 'result state'. The meaning the complex predicate has depends on the lexical aspect of the predicate. When *-te* has the feature [+perfect] on the other hand, the complex predicate receives an 'experiential' interpretation, which refers to a certain temporal point in the past. I consider that the past-like temporal function of *-teireba/-teitara* in the epistemic antecedents can be ascribed to *-te* [+perfect].

The settled present can be designated by both *-eba/tara* and *-nara/nonara* as seen in (38) and (39).

(38) *Mosi*   *Taroo-ga*   *Rondon-ni*   *ir-u-{nara/nonara}*,
    Supposing   Taro-NOM   London-in   be-N.PAST-COND
    matigai.naku   *Hiruton-ni*   *syukuhaku.si-teir-u*.
    surely   Hilton-in   stay-ing-N.PAST
    'If Taro is in London, he is undoubtedly staying at the Hilton.'

(39) *Mosi*   *Taroo-ga*   *Rondon-ni {ir-eba/i-tara}*,
    matigai.naku   *Hiruton-ni*   *syukuhaku.si.teir-u*.
    'If Taro is in London, he is undoubtedly staying at the Hilton.'

Generally, a state of affairs in the present is depicted by a stative predicate. Stative predicates cannot be followed by *-tei*. In other words, the *-tei* morpheme functions to convert non-stative predicates to stative ones.

Let us take a look at the settled future antecedents of the epistemic conditionals. In (40), the addressee's plan for Christmas Day at the time of speaking is taken up. The sentence can be paraphrased as 'If it is certain that you will be alone on Christmas Day, let us know now.'

(40) If you <u>will</u> be alone on Christmas Day, let us know now.

Note that the future auxiliary 'will' can be appear in the antecedent of such epistemic conditionals as its antecedent describes a settled future, as shown in (40).

In Japanese, the simple present tense carries the implication of certainty in the antecedent, as seen in (41).

(41) *Mosi*   *kurisumasu-no-hi-ni hitori-de ir-u-{nara/nonara}, ima osiete*.
    Supposing Christmas Day-on   alone   be-N.PAST-COND now inform
    'If you will be alone on Christmas Day, let us know now.' (Dancygier
    1998: 118)

-nara/nonara in (41) cannot be substituted for *-eba/tara* as below:

(42) **Mosi   kurisumasu-no-hi-ni   hitori-de   {ireba/itara}, ima osiete*.
       Supposing   Christmas Day-on   alone   be-N.PAST-COND now inform
       'If you will be alone on Christmas Day, let us know now.'

Without *ima* 'now' in the main clause in (42), *-eba/tara* are available.

(42)' *Mosi   kurisumasu-no-hi-ni   hitori-de   {ireba/itara}, osiete*.
       Supposing   Christmas Day-on   alone   be-N.PAST-COND inform
       'If you will be alone on Christmas Day, let us know.'

The example (42)' conveys that the speaker asked the addressee to inform of his/her plans to come on Christmas Day after the addressee figures out whether or not s/he will be alone then. *-Eba/tara* clauses in such context do not describe a future settled antecedent. This is because they do not include the present tense morpheme that carries the meaning of future settledness.

To sum up, settled protases of epistemic conditionals are divided into two types: settled future clauses are described only by complete tensed clauses as *-nara/nonara* clauses, while settled past/present antecedents are described not only by complete tensed clauses but also by incomplete tensed clauses accompanied by *-tei* carrying the +perfect feature.

4.4. Counterfactual conditionals in Japanese

4.4.1 *-Tei-* in *-eba/tara* clauses

This section examines the last topic, counterfactual conditionals in Japanese. In English, so called hypothetical conditionals (Quirk et al. 1985) are characterized by the 'back-shifted tense'.

(43) If Boris came tomorrow, Olga would be happy. (Fauconnier 1994: 111)
(44) If the Redfords were home, the lights would be on. (Fauconnier 1994: 111)
(45) If Lucky had won, I would be rich. (Fauconnier 1994: 110)

In (43), the event time of the antecedent is a certain temporal point in the future but the past tense is used to designate the temporal point. In (44), the if-clause describes the present situation but the past tense appears there. In (45), the pluperfect is used to designate the past state of affairs in the if-clause.

Note that the hypothetical conditionals in English do not necessarily presuppose the falsity of the antecedent. The example (44), for instance, possibly conveys that the speaker believes the Redfords are not home, or that the speaker is afraid that the Redfords are not home. In the latter option, the counterfactuality of the protasis is not presupposed, but still marked by the back-shifted tense. Thus in English (and many other European

languages), counterfactuality is treated as high hypotheticality (or low probability), and both are characterized by such grammatical treatment as use of back-shifted tense or subjunctive mood.

Interestingly, in Japanese neither high hypotheticality nor counterfactuality is subject to any particular grammatical treatment. Some authors point out that the non-stative predicates of counterfactual antecedents tend to be followed by the imperfective aspectual morpheme *-tei*. This means that the example (46a) is preferred to the example (46b) as the counterfactual context.

(46) a. *Motto benkyoosi-{**teir**-eba/**tei**-tara} siken-ni ukat-tei-ta-daroo.*
     More study-ASP-eba/tara   exam-to succeed-ASP-PAST-MOD
    b. *Motto benkyoo{sur-eba/si-tara} siken ni ukat-tei-ta daroo.*
     More study-eba/tara   exam-to succeed-ASP-PAST-MOD
     'If he had studied more, he would probably have passed the exam.'

Jacobsen (2002) regards *-tei(ru)* as a device for heightening counterfactual meaning in Japanese conditionals. He ascribes the hypotheticality or counterfactuality to the stativity.

Here we present three arguments against his claim. First of all, stative predicates are related to neither hypotheticality nor counterfactuality. We can easily find stative compound verbs with the *tei*-suffix in major sentences that indicate neither counterfactual nor a hypothetical situation as seen below:

(47) *Ima ame-ga fut-**tei**-mas-u.*
    now rain-NOM fall-ASP-POL-N.PAST
    'It is raining now.'
(48) *Kono otoko-wa moo sin-**dei**-ru.*
    This man-TOP already die-ASP-N.PAST
    'This man is already dead.'

As the English translations of both examples indicate, these *tei*-sentences describe a simple present situation.

Secondly, *teitara*-clauses sometimes express a factual state of affairs even in conditional clauses:

(49) *Kooen-wo sanpo.si-tei-tara, tomodati-ni battari at-ta.*
    Park-ACC walk-ASP-tara friend-TO accidentally meet-PAST
    'When I was walking in the park, I met a friend of mine accidentally.'

Tara-clauses sometimes describe a factual event in the past with a hypothetical meaning. *-Tei* in such factual *tara*-clauses does not have a hypothetical interpretation.

Finally, in the case that counterfactuality is represented explicitly in the apodosis, *-eba* and *-tara* do not necessarily include *tei(ru)* (Takubo 1993). This means that *tei(ru)*

is not necessarily required for counterfactual protases. In contrast, as shown before, *tei(ru)* is necessary for *eba/tara* clauses to express a settled protasis of epistemic conditionals.

(50) *Mosi   Pozunan-ga   kinoo {*kat-eba/*kat-tara/kat-teir-eba/kat-tei-tara}*
Supposing Poznan-NOM yesterday win-PAST-COND
yuusyoo.sur-u   tyansu-ga   ar-u.
championship   chance-NOM   be-N.PAST
'If Lech Poznan won the match yesterday, they still have a chance of winning the championship.'

The arguments presented so far naturally lead to the conclusion that the morpheme *-tei* itself does not contribute to hypothetical or counterfactual meaning but to the settledness of *eba/tara* conditional clauses. 'Settledness' is crucial for the distribution of *-tei* in incomplete tensed conditional clauses.

4.4.2. *-Nonara* as an epistemic indicator

We have one more important phenomenon of Japanese counterfactual conditionals to consider. One of the tensed conditional clauses, *-nonara*, does not appear in 'authentic' counterfactual protasis. What I mean by 'authentic counterfactual' is that the speaker knows or strongly believes the protasis is false as in (51):

(51) [Unfortunately, Dortmund lost their home match yesterday.]
Moshi   kat-tei-ta-{nara/ *nonara},   yuusyoo.suru
Supposedly   win-ASP-PAST-{nara/nonara}   win.the.championship
tyansu-ga   at-ta-daroo-ni.
chance-NOM   be-PAST-MOD-although
'If they had won, they would have had a chance of winning the championship.'

-Nonara cannot be used in such a context, but *-nara* can be, as in (51). *-Teireba* and *-teitara* can be used here, too.

Interestingly, a *-nonara*-marked clause can lead to a false conclusion as in (52).

(52) *Ame-ga   hut-tei-ta-**nonara**,   dooro-ga   nureteir-u-hazuda.*
Rain-NOM   fall-ASP-PAST-nonara   road-NOM   wet-N.PAST-must
Sikasi,   mattaku   nuretei-na-i.
But   no.at.all   wet-NEG-N.PAST
'If it had rained, the road must have been wet. But, it is not wet at all.'

In this example, the speaker conveys implicitly the falsity of protasis by showing the apodosis is obviously false. This example does not presuppose that the protasis is false but does argue for the falsity of the protasis itself. This type of sentence should not be treated as an authentic counterfactual conditional, thus *-nonara* can appear there.

Remember that *-nonara* cannot be the antecedent in predictive conditionals, as discussed in 4.2. Therefore, *-nonara* is restricted to use as an epistemic antecedent in Japanese. Considering that the truth-value of the epistemic antecedent is objectively determined but is unknown to the speaker, what the speaker knows or does not know is the most important aspect of Japanese conditionals, rather than high hypotheticality or low probability.

5. Concluding Remarks

We have shown that the distributional differences between complete tensed and incomplete-tensed conditional clauses in Japanese are best explained by referring to the settledness of the antecedent. One of the main claims is that tense forms or the aspect form *-tei* grammatically marks the settledness of the antecedent of Japanese conditionals. We rejected previous claims that *-tei* in the antecedent clause indicates counterfactuality or hypotheticality. *-Tei* does not necessarily appear in a counterfactual antecedent if counterfactuality is represented explicitly in the consequent clause. On the other hand, either *-tei* or tense form should be in antecedents of epistemic conditionals to indicate the settledness of the antecedent.

This contrasts strikingly with English conditionals, where counterfactuality or a high degree of hypotheticality is indicated by a back-shifted tense.

Another important point is that *-nonara* describes exclusively an epistemic antecedent. An epistemic antecedent is defined as objectively settled but unknown to the speaker. Therefore, not only settledness but also the ignorance of the speaker is manifested in Japanese grammar.

-Nonara is a conditional form of *-noda*, one of the auxiliary forms. *-No* of *-noda* is treated as one of *keishiki-meishi*, quasi-noun, which grammatically functions as nouns but do not possess any conceptual meaning. In Japanese, many modal auxiliaries are constructed by combining *keishiki meishi* and copula. *Noda* is one of the modal auxiliaries. So, a modal auxiliary conceptualizes a state of affairs described by the sentence. In Japanese, substantiveness is strongly related to such conceptualization. Returning to *-nonara*, the functional meaning of *-nonara* is treated as hypothesizing the speaker's conceptualization itself. Therefore, it is difficult to use *-nonara* to describe a counterfactual statement, whose counterfactuality is fixed and is not disputable.

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