

Past-as-Past in Japanese counterfactuals

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1 Introduction

The antecedents of the conditionals in (1a) through (1c) refer to a future time (forced by the adverb tomorrow); so do, on their most natural readings, their consequents. But only (1a) has the temporal morphology that would be expected in this case. Both (1b) and (1c) feature Past and/or Perfect morphology, which seems to be at odds with their future reference.

- (1) a. If Mary *comes* tomorrow, she *will* join the meeting.
[predictive indicative]
b. If Mary *came* tomorrow, she *would* join the meeting.
[simple past subjunctive (SP)]
c. If Mary *had come* tomorrow, she *would have* joined the meeting.
[past perfect subjunctive (PP)]

The conditionals in (1) were all about the future, but similar mismatches of temporal morphology and temporal interpretation can also be observed with past reference: the non-counterfactual (2a) has the temporal makeup one would expect with ordinary past reference; however, (2b) and (2c) suggest that counterfactuals about the past require an extra layer of Past or Perfect that is again not explained by their temporal reference: SP is ruled out in the former and PP is required in the latter, even though there is no obvious need for Past Perfect morphology.

- (2) a. If Mary *came* yesterday, she *joined* the meeting.
[non-predictive indicative]
b. #If Mary *came* yesterday, she *would join / would have joined*. [SP]
c. If Mary *had come* yesterday, she *would have joined*. [PP]

Such seemingly extraneous Past or Perfect morphology has been observed in a range of typologically diverse languages. Iatridou (2000) offered an extensive overview and coined the term *Fake Past*. She also observed that Fake Past is generally associated with an irrealis or counterfactual interpretation. Ippolito (2003, 2006, 2013) studied the SP/PP distinction and made important observations about its semantic import. Subsequent research has significantly improved our understanding of Fake Past. But even so, some fundamental issues remain controversial, including the question of whether the ordinary time-shifting semantics of “real”, non-Fake Past is in any way preserved in its Fake counterpart.

There are two camps on this latter question. The *Past-as-Past* camp argues that some sort of temporal backshift is crucially involved in the interpretation of Fake Past. In contrast, *Past-as-Modal* approaches maintain that Fake Past is essentially

a modal expression, and all that is common between it and temporal Past is some abstract notion of “remoteness.”

This paper is concerned with Fake Past in Japanese. Ogihara (2014) observed that the Japanese verbal suffix *-ta*, which typically expresses Past tense, has a Fake use in counterfactual conditionals. Ogihara’s proposal is somewhat limited in scope (in particular, focused on future counterfactuals) and not entirely correct in terms of its predictions, or so we argue. Ogihara proposes a Past-as-Modal analysis of fake *-ta*. We argue that this is incorrect and a Past-as-Past analysis is better able to account for the facts.

2 Basic Japanese facts

We start with some minimal assumptions about the grammar of Japanese conditionals and their constituents. These assumptions do not entail any significant syntactic commitments; our analysis is compatible with a range of theoretical frameworks.

2.1 Simple sentences

The simple Japanese clauses we are interested in consist of tensed sentence radicals, with optional aspectual morphology and/or negation intervening between the radical and the tense. Sentence radicals are saturated verb phrases with all their required arguments, but without any aspectually or temporally significant morphology – roughly speaking, the *vP* level (the term goes back to Stenius, 1967). This is shown schematically in (3). A sample sentence radical is given in (4).

(3) [[[SENTENCE RADICAL] (ASPECT)] TENSE]

(4) Yōko-ga tuk-
Yoko-NOM arrive-
‘Yoko arrive’

Japanese has two tenses, Past and Nonpast, expressed on verbs by the suffixes *-ru* and *-ta* and their allomorphs.¹ Thus from the radical in (4) one can form the Nonpast and Past sentences in (5).²

(5) Yōko-ga { tuk-u / tui-ta }
Yoko-NOM arrive-NPST arrive-PAST
‘Yoko { is arriving / arrived }.’

Aspectual morphology may intervene between the radical and the tense. An example is the morpheme *-tei-*, one of whose interpretations is Resultative Perfect

¹Forms which do not fit this paradigm include the copula *da / datta* and a class of adjectives (*keiyōsi* in Japanese traditional grammar) that is inflected with the tense morphemes *-i* and *-katta*. This last group includes the negative verbal suffix *-nai / -nakatta*. We do not discuss these forms in detail here, as their interpretation in conditionals does not differ from that of verbs in relevant ways.

²The Nonpast form in (5) is translated using the English Progressive because Japanese Nonpast non-statives can only have future reference, similarly to their English counterparts. This does not hold for statives; see Kaufmann and Miyachi (2011); Kaufmann and Kaufmann (2017) for details.

(ignoring its other uses as Progressive and Experiential Perfect; see Kaufmann, to appear and references therein). The sentences in (6) illustrate.

- (6) a. Yōko-ga tui-tei-ru
 Yoko-NOM arrive-TEI-NPST
 ‘Yoko has arrived.’
 b. Yōko-ga tui-tei-ta
 Yoko-NOM arrive-TEI-PAST
 ‘Yoko had arrived.’

Japanese has a relatively rich inventory of conditional connectives, which differ semantically in interesting and subtle ways (Masuoka, 1993; Arita, 2007, 2009, i.a.). We confine our discussion here to *-ba*, both for reasons of space and because *-ba* lacks some of the intricacies that complicate the patterns with other connectives.

In conditionals, *-ba* attaches to the “-e form”, sometimes called hypothetical form (*izenkei* in traditional Japanese grammar) of the antecedent. Importantly, this morphological fact precludes the presence of tense directly under *-ba*: its complement must be a radical, optionally with aspectual morphology, but without tense.³ The schema in (7) shows the basic structure. The particle *mosi* is optional in general, but can be useful to disambiguate with connectives that also have non-conditional uses (these include *to* and *-tara*, which are not in focus in this paper). The modal at the end is likewise optional, often helpful in rendering conditionals more natural in context, but not at issue in this paper. (8) is a typical example.

- (7) [(MOSI) [[RAD] (ASP)] COND] [[RAD] (ASP)] TENSE (MODAL)
 (8) Mosi Yōko-ga tui-tei-reba, kaigi-ni de-ru darō.
 MOSI Yoko-NOM arrive-TEI-COND meeting-LOC join-NPST MODAL
 ‘If Yoko has arrived, she will join the meeting.’

The modal *darō* in (8) is frequently encountered, but not always felicitous. Counterfactual conditionals, in particular, typically have other forms, such as *darō-ni* or *-noni*, or no modal at all. However, while these various modal forms may be useful in making certain interpretations more or less salient, they are not strictly required; and since we are aiming to use minimal pairs and our focus is on their temporal makeup rather than the modals used, we will frequently omit the modal altogether, even though the resulting forms may be less natural in actual usage.

Turning now first to conditionals about the future, compare the English sentences in (1) above to their Japanese counterparts in (9) and (10).

³Tense can occur under *-ba* in more deeply embedded positions, for instance under the nominalizer *no* and the copula, as in (i).

- (i) Yōko-ga ik-u no de ar-eba, Tarō-mo ik-u.
 Yoko-NOM go-NPST NOMINAL COP be-COND Taro-ADDITIVE go-NPST
 ‘If Yoko goes, so will Taro.’

These constructions do not show any behavior that is unexpected or particularly interesting in the present context. We leave them outside the scope of this paper.

Japanese	English
NONPAST	indicative SP subjunctive
PAST	PP subjunctive

Table 1: Conditionals about the future: correspondence between Japanese forms (tense in the consequent) and their English counterparts

- (9) Mary-ga asita ku-reba, kaigi-ni de-ru.
 Mary-NOM tomorrow come-COND meeting-LOC join-*nonpast*
 a. ‘If Mary *comes* tomorrow, she *will* join the meeting.’ [indicative]
 b. ‘If Mary *came* tomorrow, she *would* join the meeting.’ [SP]
- (10) Mary-ga asita ku-reba, kaigi-ni de-ta.
 Mary-NOM tomorrow come-COND meeting-LOC join-*past*
 ‘If Mary *had came* tomorrow, she *would have* joined the mtg.’ [PP]

The main thing to note is that the Japanese sentence (9) translates both the English predictive conditional in (1a) and the Simple Past subjunctive (1b), in contrast to (10), which corresponds to the English Past Perfect subjunctive (1c). In other words, from the English perspective (9) is underspecified between indicative and SP subjunctive. This is shown in Table 1.

Conditionals about the past also conform to the pattern in the table. However, here the difference between SP and PP subjunctive is not expressed in English: both (11b) and (12) have the same form. The two differ, of course, in that the former is SP while the latter is PP; the former has one layer of Fake tense on top of a layer of genuinely temporal Past, whereas the latter has two layers of Fake tense.

- (11) Mary-ga kinō ki-tei-reba, kaigi-ni de-ta.
 Mary-NOM yesterday come-TEI-COND meeting-LOC join-PAST
 a. ‘If Mary *came* yesterday, she *joined* the meeting.’ [indicative]
 b. ‘If Mary *had come* yesterday, she *would have* joined.’ [SP]
- (12) Mary-ga kinō ku-reba, kaigi-ni de-ta.
 Mary-NOM yesterday come-COND meeting-LOC join-PAST
 ‘If Mary *had come* yesterday, she *would have* joined.’ [PP]

This observation is supported by the cancellability facts in (13) and (14): a subsequent assertion committing the speaker to the antecedent’s being possible is felicitous after the SP subjunctive, but not after the PP subjunctive.⁴

- (13) [(11) ...] Hyottositara ki-ta kamosirenai kedo.
 Perhaps come-PAST might though

⁴Since (11) also as a reading corresponding to the English indicative, the deniability of the antecedent may seem unremarkable in this case. However, the specific form used in (13) (*hyottositara ... kedo*) highlights the antecedent’s unexpectedness, which is a hallmark of the SP reading of (11), thus in effect disambiguating in favor of the SP reading.

- ‘ [(11) ...] Perhaps she might have come, though.’
- (14) [(12) ...] #Hyottositara ki-ta kamosirenai kedo.
 Perhaps come-PAST might though
 ‘ [(12) ...] #Perhaps she might have come, though.’

What sort of presupposition underlies each type of subjunctives will be made clear in the next section. Here it suffices to say that the aspect marker in the antecedent plays a role in differentiating SP and PP subjunctives about the past.

3 Fake Past

The difference between English SP and PP subjunctives was investigated in detail by Ippolito (2003, 2006, 2013). Her original observation was that while minimal pairs differing only in these forms are semantically similar, they are not felicitous in the same contexts. Intuitively, (15) and (16) suggest that the SP subjunctive is felicitous when the underlying hypothetical reasoning requires only a modest deviation from the actual course of events, whereas the PP subjunctive is appropriate in cases in which a more radical intervention is called for. Ippolito cashes out this intuition in terms of presuppositions: in (15) and (16), the antecedent presupposes that Mary is alive. The context in (16) fails to satisfy this presupposition; in such cases the PP subjunctive is called for. The context in (15) is consistent with this presupposition, though not with the antecedent itself. In this case the SP subjunctive is appropriate.

- (15) [Mary is not likely to come to the office tomorrow.]
 a. If Mary *came* tomorrow, she *would* join the meeting. [SP]
 b. #If Mary *had come* tomorrow, she *would have* joined the mtg. [PP]
- (16) [Mary is dead.]
 a. #If Mary *came* tomorrow, she *would* join the meeting. [SP]
 b. If Mary *had come* tomorrow, she *would have* joined the mtg. [PP]

Schulz (2014) focuses largely on SP subjunctives and contrasts them with indicatives, rather than with PP subjunctives. Under her analysis, SP subjunctives are used when the antecedent is *unexpected* – in her formal implementation, when the antecedent is inconsistent with the speaker’s “epistemic center,” a notion which corresponds, in the standard Kratzerian framework, to the minimal worlds among those provided by the modal base under an stereotypical ordering source. Schulz (2014) does not elaborate on the difference between SP and PP subjunctives, but speculates that while SP marks inconsistency with speaker expectations, PP marks inconsistency with speaker beliefs. Depending on one’s terminological predilections, one might say, then, that according to Schulz only PP marks true counterfactuality, whereas the difference between indicatives and SP subjunctives is more subtle, and perhaps vague, correlating with the antecedent’s likelihood.⁵

⁵We do not know whether Schulz would endorse this exact wording, but we do think it is broadly in line with her view. It alikens SP subjunctives with future reference to the *Future Less Vivid* forms discussed by Iatridou (2000), without however identifying the two notions, since SP subjunctives may also have past reference. It also jibes well with Lewis’s (1973, p. 4) contention that SP subjunc-

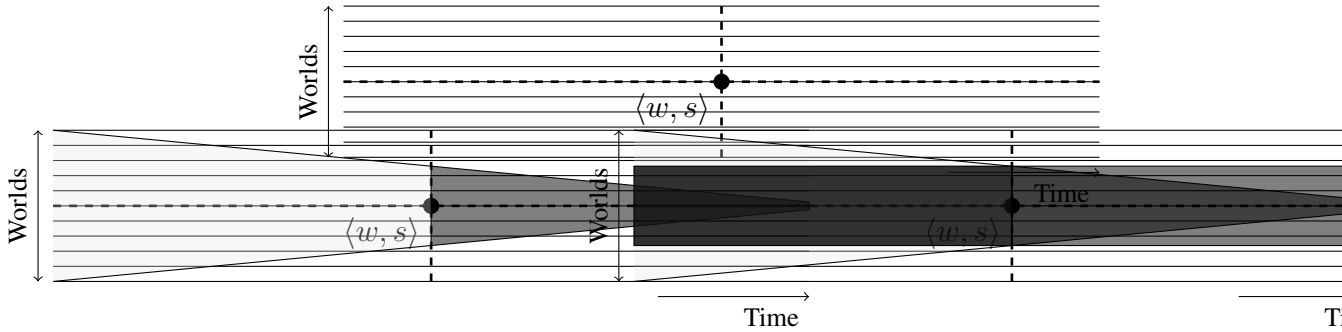


Figure 1: Top: $T \times W$ -model. Lower left: The history of w in a filter-funnel model of historical necessity. Lower right: Historical alternatives at $\langle w, s \rangle$.

In any case, assuming the standard analysis of conditionals in terms of quantification over possible worlds, the interpretation of both SP and PP subjunctives requires that the domain of quantification be opened up to make antecedent-worlds accessible. Past-as-Modal (PaM) and Past-as-Past (PaP) are the two major approaches to building such an expansion into the semantics of Fake Past. But note that modal base expansion and Fake Past are not necessarily linked: in particular, expansion may be marked with something other than Fake Past, or not marked at all. In fact, this is what we will argue for the Japanese counterpart of English SP subjunctives.

We give a semi-formal presentation of the main ideas in what Kaufmann (2009) dubbed the *filter-funnel* model of historical necessity. Figure 1 shows a “ $T \times W$ -frame” (Thomason, 1984), the Cartesian product of two disjoint non-empty sets W (of worlds) and T (of times), the latter linearly ordered by the earlier-than relation $<$. Sentences are interpreted at world-time pairs (i.e., Montagovian indices) like $\langle w, s \rangle$ in the picture (here ‘ s ’ stands for Speech Time). Also part of the model is a ternary relation of being a *historical alternative* of a world at a time. The idea is that all historical alternatives of w at a time t are indistinguishable from w at all times up to and including t , but may differ from w at later times. As time progresses, worlds cease to be historical alternatives to each other, but they cannot *become* historical alternatives: if w, w' stand in the relation at time t , they must have been historical alternatives at all times $t' \leq t$. Thus the history of w can be depicted as in the lower left panel in Figure 1, as a monotonic loss of historical alternatives (hence the “filter-funnel” metaphor). The set of alternatives to w at s is shown as the shaded rectangle in the lower right panel. The worlds in this set are all indistinguishable from each other and from w up to s , but may differ at later times.

Note that as we describe it here, the model represents *historical* alternatives; existential and universal quantification over the set of historical alternatives corresponds to *metaphysical* possibility and necessity, respectively. The analysis of tense and modality in indicative conditionals in Kaufmann (2005) augments this kind of model with a second modality representing *epistemic* or *doxastic* necessity and possibility. This part of the framework is crucial for some purposes, but we ignore it here because it is not directly relevant to the purposes of this paper.

One important aspect of Kaufmann’s (2005) analysis is that tenses invariably introduce a modal element, even in simple clauses without overt modals. For instance, the truth conditions of (17) involve universal quantification over the indices accessible from w via the relation \approx_s ; this is the set of historical alternatives to w

tives with future reference “appear to have the truth conditions of indicative conditionals” (without thereby committing to Lewis’s interpretation of indicatives in terms of the material conditional).

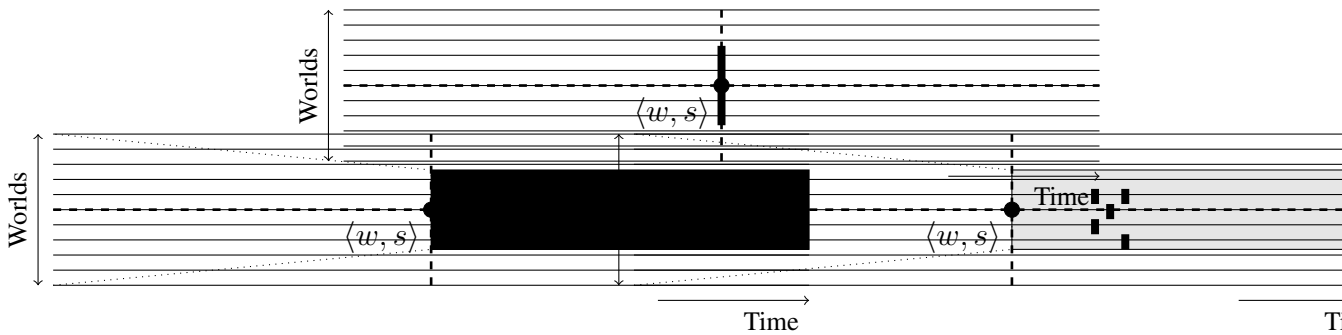


Figure 2: Modal bases for the interpretation of tense at $\langle w, s \rangle$. Top: simple sentences. Bottom left: forward-shifted, unrestricted. Bottom right: forward-shifted, restricted.

at s , shown as a black vertical line in the top panel of Figure 2. All these indices share the time coordinate s ; thus the temporal perspective (i.e., the time relative to which the Nonpast is evaluated) is the speech time.

- (17) Joe cooks dinner tomorrow. is true at $\langle w', s \rangle$ if and only if
 for all $\langle w', s \rangle$ such that $w \approx_s w'$ [modal operator]
 there is a time r such that $s \leq r$ [Nonpast]
 and r is in tomorrow _{s} [adverb]
 and Joe cook dinner is true at $\langle w', r \rangle$. [radical]

The interpretation of the modal will similarly involves quantification over indices in the modal base. The difference to the simple Present, indicated in (18a), is that not all accessible indices are relevant; instead, an *ordering source* demotes some of them. Only the ones not so demoted are relevant to the truth of the sentence.⁶ As a result, will-sentences like (18) express a weaker kind of necessity statement than those in the bare Present, as in (17). This accounts for the observation that the English bare Present with future reference, while not altogether ill-formed, carries a strong “Certainty Condition”, in Kaufmann’s (2005) terms, which constrains its felicity. In Japanese and other languages, Nonpast with future reference is not subject to the same restrictions. We tentatively conclude from this fact that there the modal element in Nonpast is sensitive to an ordering source, similarly to English will in (18).

- (18) Mary will eat. is true at $\langle w', s \rangle$ if and only if
 for all *relevant* $\langle w', s \rangle$ such that $w \approx_s w'$ [modal operator]
 there is a time r such that $s \leq r$ [Nonpast]
 and Mary eat is true at $\langle w', r \rangle$. [radical]

Kaufmann’s (2005) interpretation of conditionals follows the standard Kratzerian assumption that the antecedent acts as a restrictor of the modal base relevant for the main modal in the sentence. Two special properties characterize Kaufmann’s implementation of this idea: (i) the main modal whose modal base is being restricted is the one belonging to the tense of the consequent, and (ii) the presence of the if-clause extends this modal base into the future. The bottom left panel in Figure 2 shows the forward-expanded modal base, in contrast to the non-shifted one in

⁶For introductions to the Kratzer-style analysis of modality and the role of ordering sources, see Kaufmann and Kaufmann (2016, 2015), and references therein.

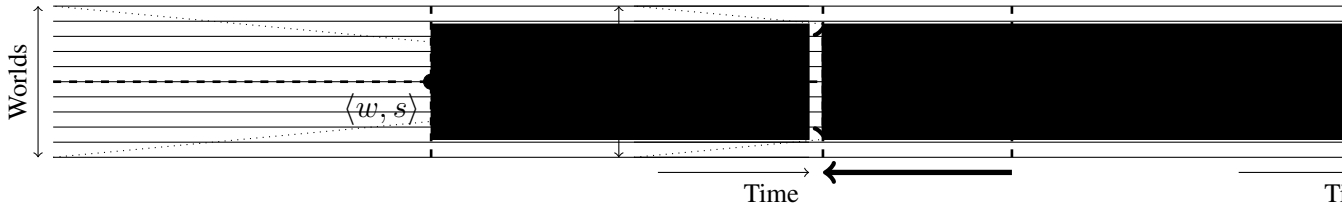


Figure 3: Expansion of the modal base. Left: Past-as-Modal. Right: Past-as-Past.

the top panel. The restriction to those indices at which the antecedent is true results in quantification over a subset of this “rectangular” modal base, illustrated in the bottom right panel. The truth conditions for a predictive indicative are as in (19).

- (19) If Joe cooks dinner tomorrow, Mary will eat. is true at $\langle w, s \rangle$ iff
- | | |
|--|-----------------|
| for all relevant $\langle w', s' \rangle$ such that $w \approx_s w'$ | [cons. modal] |
| and $s \leq s'$ | [if] |
| and for all w'' such that $w' \approx_{s'} w''$ | [ant. modal] |
| there is a time r_A such that $s' \leq r_A$ | [ant. Nonpast] |
| and r_A is in tomorrow _s | [adverb] |
| and Joe cook dinner is true at $\langle w'', r_A \rangle$ | [ant. radical] |
| there is a time r_C such that $s' \leq r_C$ | [cons. Nonpast] |
| and Mary eat is true at $\langle w'', r_C \rangle$ | [cons. radical] |

How should we model Fake Past within the overall framework just outlined? As mentioned above, the two main approaches are Past-as-Modal (PaM) and Past-as-Past (PaP). Figure 3 shows how each might affect the modal base at $\langle w, s \rangle$ in the above example. PaM effects an expansion in the modal dimension. PaP involves an “undoing” of part of the past, making additional worlds accessible since the set of alternatives to w increases as one moves into the past. As suggested by the figure, both approaches can make the same set of worlds accessible. However, under Kaufmann’s approach, where the expansion goes hand in hand with a shift in temporal perspective for both the antecedent and the consequent, we predict a difference in the available temporal interpretations: the time s' at which the constituents are interpreted is shifted into the past under the PaP approach, but not under the PaM approach. Reference to past events, then, will require additional temporal/aspectual morphology under the latter, but not the former. Viewed from this perspective, we find that the Japanese data furnish evidence for a PaP approach to Fake -ta.

4 Time and modality in Japanese conditionals

4.1 Ogihara (2014)

Ogihara (2014) observed that the Japanese Past tense suffix -ta can be used in conditionals about the future, but only under a counterfactual interpretation. In (20), the temporal reference is set to a future interval by the frame adverbial asita ‘tomorrow’ in the antecedent. With -ta in the consequent, the conditional presupposes the falsity of the proposition in the antecedent, analogously to an English PP subjunctive.⁷

⁷It is possible to have a sentence similar to (20) in which the Past in the consequent has a temporal interpretation: (i) is an indicative with a “past-in-the-future” interpretation of -ta.

- (20) Mary-ga asita ku-reba, kaigi-ni de-ta.
 Mary-NOM tomorrow come-COND meeting-LOC join-PAST
 ‘If Mary had come tomorrow, she would have joined the meeting.’

Ogihara focused on the fact that *-ta*, its ordinary temporal meaning notwithstanding, does not refer to a past time in (20). He proposed that it is underspecified between a temporal and a modal interpretation, borrowing from Iatridou (2000) the formal device of expressing the distinction in the features [+exclude context time] and [+exclude context world]. The former instantiates the temporal meaning and renders the entire conditional an indicative about the past. The latter, in contrast, renders the conditional counterfactual by excluding the contextually salient world from the domain of modal quantification, leaving the reference time of the conditional underspecified. To explain the obligatory counterfactual meaning in future conditionals with *-ta*, Ogihara argues that the [+exclude context time] option is not available for them. Because *asita* forces future reference, the conditional in (20) is bound to set the feature of *-ta* to [+exclude context world]. This feature neutralizes the temporal reference of the conditional, thereby rendering the conditional compatible with the future adverbial.

While we agree with his basic data point, Ogihara’s proposal raises several open issues. Firstly, the existence of future counterfactuals without *-ta* (corresponding to English SP subjunctives) discussed in Section 2 above remains unaccounted for under his analysis. Ogihara in fact acknowledged this issue but sidestepped it by stipulating that a conditional with a Nonpast consequent (and without any other markers or particles indicating counterfactuality, such as sentence-final *-daroo ni*) generally receives an indicative interpretation.

Relatedly, Ogihara’s two-featured Past semantics cannot be straightforwardly extended to conditionals about the past.⁸ Ogihara argued that similarly to English PP subjunctives, Japanese counterfactuals with *-ta* are indefeasibly counterfactual, in that they presuppose the falsity of their antecedents. His [+exclude context world] on *-ta* was designed to encode this strong counterfactuality. However, we observed in Section 2 that conditionals about the past with *-ta* in the consequent can vary between SP and PP subjunctive meanings, the difference being correlated with the presence/absence of the aspect marker *-tei* in the antecedent. Both (11) and (12) had Past consequents; on the SP reading in (11b), this Past had a temporal interpretation.

In sum, while Ogihara’s case for the existence of Fake *-ta* and its correspondence to English PP subjunctives is strong, his analysis does little to clarify the status of the Japanese analogs of SP subjunctives, which do not require *-ta* and in which *-ta*, when it occurs, has a temporal interpretation. This is problematic for his

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- (i) Mary-ga asita ku-reba, kaigi-ni de-ta koto-ni-na-ru.
 Mary-NOM tomorrow come-COND meeting-LOC join-PAST turn out-NPST
 ‘If Mary comes tomorrow, (that means that) she joined the meeting.’

However, the special epistemic reading of (i) (indicated in the English gloss) is only available if the Japanese sentence has an inferential marker like *koto-ni na-ru* in the consequent. This means that the *-ta*-marked clause is in fact embedded in the consequent, which itself has Nonpast tense. Such sentences raise interesting issues, but none that are relevant to our present discussion.

⁸To be fair, Ogihara’s paper was explicitly devoted to future counterfactuals; still, we think the question whether there is a clear path to extend the analysis to closely related sentences is a fair one.

analysis for two reasons, both having to do with his PaM analysis of Fake -ta.

The first problem has to do with the shift of temporal perspective. Recall the distinction between modal expansion and backshift expansion of the modal base (discussed in Section 3 and shown in Figure 3 above). The main difference between the two is that the backshift expansion also enables a shift of the temporal perspective into the past; thus we predict that in such sentences, the antecedent should be able to refer to the past without Past or Perfect morphology. This was indeed borne out in (12) above, the analog of the English PP subjunctive. In contrast, (11b), which was ambiguous between an indicative and an SP subjunctive reading, required the Perfect marker -te_i for reference to the past. But now also recall that under a PaM analysis, as we understand it, Fake Past only effects a modal expansion without temporal backshift. It is only under a PaP analysis that we expect to see temporal backshift. Now Fake -ta does effect temporal backshift, as shown in (12), whereas (11b) with temporal -ta features modal expansion. Thus *pace* Ogihara, what we need is a PaP analysis.

The second problem arises with *timeless counterfactuals*, exemplified in the mathematical statements in (21) and (22). There is no past time at which their antecedent was possible, thus temporal backshift is not a plausible way to make antecedent worlds accessible. As the judgments show, timeless counterfactuals are only felicitous without -ta in Japanese (and only as SP subjunctives in English). However, Ogihara would wrongly predict that -ta should be quite natural here.⁹

- (21) Mosi kyū-ga gūsū de ar-eba, ni-de warikire-ru.
 MOSI 9-NOM even COP be-COND 2-INSTR be divisible-NPST
 ‘If 9 were even, it would be divisible by 2.’
- (22) ??Mosi kyū-ga gūsū de ar-eba, ni-de warikire-ta.
 MOSI 9-NOM even COP be-COND 2-INSTR be divisible-PAST
 ??‘If 9 had been even, it would have been divisible by 2.’

4.2 Proposal

We found Ogihara’s PaM approach to Japanese -ta wanting in that it concentrated on a limited range of data and faced difficulties related to temporal reference and modal quantification. We propose an alternative PaP analysis which captures the data that were unexplained under Ogihara’s account, and which leaves the original anteriority meaning of -ta intact.

Our proposal is built on the $T \times W$ -model laid out in Section 3. Continuing our semi-formal discussion, recall the two ways of expanding the modal base from Figure 3, dubbed “modal” and “backshift” expansion. The above figures displayed the domain of quantification for conditionals (before restriction by the antecedent) as a dark rectangle; informally speaking, the size and location of this rectangle determines the range of available readings. It is determined in part by temporal/aspectual morphology; but the framework also leaves room for contextual factors, which we take to be behind the SP readings without morphological marking in Japanese.

⁹(22) can be felicitous, but it requires a reading on which the antecedent *became* true in the past. For instance, it could be used by a child who recently learned that nine is odd. While it is interesting that the sentence can have this interpretation, we set this use aside since it is not “timeless.”

Our proposal postulates a structural distinction between two different semantic scopes of -ta, an *inner* one and an *outer* one.¹⁰ Inner -ta is “low,” in a position in which it contrasts with Nonpast -ru, as shown in (23). Its role is purely temporal, only manipulating the temporal reference of the consequent. Both the antecedent and the consequent are interpreted at a time $s' \geq s$; reference to past events can be realized by Perfect -tei in the antecedent and -ta in the consequent, respectively. Importantly, -ta is not involved in the SP-like reading. Morphologically and semantically, the Japanese analogs of English SP subjunctives are indicatives. They do not require Fake -ta, and if they have -ta in their consequents, it is interpreted temporally. The expansion of the modal base is modal, driven by contextual factors.

$$(23) \quad [[[\text{RAD}_A] (\text{ASP}_A)] \text{COND}] \left[[[\text{RAD}_C] (\text{ASP}_C)] \text{TENSE} \right]$$

true at $\langle w, s \rangle$ iff at all points in the *left* rectangle in Figure 3
 at which $[[\text{RAD}_A] (\text{ASP}_A)]$ is true,
 $[[\text{RAD}_C] (\text{ASP}_C)] \text{TENSE}$ is also true

Outer -ta, in contrast, takes a structural position outside the entire conditional. This is reminiscent of proposals like Ippolito’s, where fake Past or Perfect also scopes over the entire conditional. In Japanese, the wide-scoping of outer -ta leads to a temporal backshift which, under the PaP analysis, shifts the evaluation back to a time at which antecedent-words are accessible. Such backshift effected by outer -ta yields a reading corresponding to the English PP subjunctive. Note also that the temporal backshift removes any need for additional morphological marking to realize past reference. This explains why a conditional about the past lacking -tei in the antecedent always conveys strong counterfactuality (recall (12) above).

$$(24) \quad \left[[[[\text{RAD}_A] (\text{ASP}_A)] \text{COND}] [[\text{RAD}_C] (\text{ASP}_C)] \right] \text{ta}$$

true at $\langle w, s \rangle$ iff at all points in the *right* rectangle in Figure 3
 at which $[[\text{RAD}_A] (\text{ASP}_A)]$ is true,
 $[[\text{RAD}_C] (\text{ASP}_C)]$ is also true

The inner/outer distinction of -ta, while leaving the original anteriority meaning of the suffix intact, derives an array of indicative and subjunctive conditionals. The following examples instantiate a part of this paradigm. In (25), the absence of -tei prevents the antecedent from referring to times before s on its own. The Nonpast in (25a) does not trigger backshift, resulting in an indicative about the future. In (25b), same antecedent *can* refer to a time before s , due to the backshift effected by -ta, thus conditional (25b) is a PP subjunctive.

- (25) Mosi Oswald-ga Kennedy-wo korosa-naker-eba, ...
 MOSI Oswald-NOM Kennedy-ACC kill-NEG-COND
 a. tigau hito-ga koros-u.
 other person-NOM kill-NPST

¹⁰We refrain from speculating on how this distinction may be related to the syntax.

‘If Oswald doesn’t kill Kennedy, someone else will.’

[indicative; was felicitous (and false) until 11/21/1963]

b. *tigau hito-ga korosi-ta.*

other person-NOM kill-PAST

‘If Oswald hadn’t killed Kennedy, someone else would have.’

[PP subjunctive; is felicitous (and false) now]

In contrast, in (26) the presence of *-tei* in the antecedent allows for past reference even without counterfactual backshift. In (26a), the Nonpast in the consequent locates its evaluation time prior to Kennedy’s death, implying that Kennedy is alive. The entire conditional ends up being an indicative with future reference in the consequent. (26b), on the other hand, is ambiguous. With inner *-ta* it is a non-predictive indicative, both of whose constituents refer to the past, and which presupposes that Kennedy *may be* dead. With outer *-ta* it has a PP interpretation like (25b) which indefeasibly conveys that Oswald killed Kennedy.¹¹

(26) *Mosi Oswald-ga Kennedy-wo korosi-tei-naker-eba, ...*

MOSI Oswald-NOM Kennedy-ACC kill-TEI-NEG-COND

a. *tigau hito-ga koros-u.*

other person-NOM kill-NPST

‘If Oswald didn’t kill Kennedy, someone else will.’

‘If Oswald hadn’t killed Kennedy, someone else would.’

[felicitous between shots and news of K’s death]

b. *tigau hito-ga korosi-ta.*

other person-NOM kill-PAST

‘If Oswald didn’t kill Kennedy, someone else did.’

[non-predictive indicative; felicitous (and true) now]

‘If Oswald hadn’t killed Kennedy, someone else would have.’

[PP or SP subjunctive; is felicitous (and false) now]

We note only in passing that similarly to (11), (26a,b) both have readings corresponding to English SP subjunctives, i.e., implying that it is unlikely but not impossible that Oswald killed Kennedy. This is shown in the second English gloss for (26a) and in the second reading of the gloss for (26b). As mentioned above, we assume that this reading does not involve outer *-ta*, thus in both cases the Japanese sentences are indicatives.

4.3 Further predictions

Our analysis predicts that Ippolito’s observation about the contrast in felicity between English SP sv. PP subjunctives, which we discussed in Section 3 above, can also be found between conditionals with and without *-ta* in Japanese. This is borne out: the (in)felicity in (27) and (28) parallels that in (15) and (16).

¹¹The Perfect marker *-tei* in the antecedent is not required to bring about this reading, as shown by (25b); but it does not preclude it, either. More work is required to determine what exactly *-tei* contributes in this case.

- (27) [Mary is not likely to come to the office tomorrow.]
 a. Mary-ga ku-reba, kaigi-ni de-ru.
 Mary-NOM come-COND meeting-LOC join-NPST
 ‘If Mary came, she would join the meeting.’
 b. #Mary-ga ku-reba, kaigi-ni de-ta.
 Mary-NOM come-COND meeting-LOC join-PAST
 #‘If Mary had come, she would have joined.’
- (28) [Mary is dead.]
 a. #Mary-ga ku-reba, kaigi-ni de-ru.
 Mary-NOM come-COND meeting-LOC join-NPST
 #‘If Mary came, she would join the meeting.’
 b. Mary-ga ku-reba, kaigi-ni de-ta.
 Mary-NOM come-COND meeting-LOC join-PAST
 ‘If Mary had come, she would have joined.’

The (non)cancellability of the counterfactuality further confirms the parallelism between English and Japanese. The contexts for (29) and (30) are the same as in (27) and (28) respectively.

- (29) Mary-ga ku-reba, kaigi-ni de-ru.
 Mary-NOM come-COND meeting-LOC join-NPST
 ‘If Mary came tomorrow, she would join the meeting.’
 Hyottositara ku-ru kamosirenai kedo.
 Perhaps come-NPST might though
 ‘Perhaps she might come, though.’
- (30) Mary-ga ku-reba, kaigi-ni de-ta.
 Mary-NOM come-COND meeting-LOC join-PAST
 ‘If Mary had come tomorrow, she would have joined.’
 #Hyottositara ku-ru kamosirenai kedo.
 Perhaps come-NPST might though
 #‘Perhaps she might come, though.’

Finally, recall from Section 4.1 that Ogihara’s PaM approach does not account for timeless counterfactuals. The examples are repeated below.

- (31) Mosi kyū-ga gūsū de ar-eba, ni-de warikire-ru.
 MOSI 9-NOM even COP be-COND 2-INSTR be divisible-NPST
 ‘If 9 were even, it would be divisible by 2.’
- (32) ??Mosi kyū-ga gūsū de ar-eba, ni-de warikire-ta.
 MOSI 9-NOM even COP be-COND 2-INSTR be divisible-PAST
 ??‘If 9 had been even, it would have been divisible by 2.’

Our analysis predicts the oddness of the Past tense (and PP in English). The problem with -ta is that regardless of whether it is temporal or Fake, it requires a past time at which the antecedent is (possibly) true, such as ‘if 9 had been assigned to

an even number, ...', which is at odds with the timelessness of such mathematical statements. The Nonpast makes sense for these sentences because their interpretation proceeds via modal expansion, rather than backshift.

5 Conclusions

The use of primarily temporal or aspectual forms to express mood distinctions continues to be a topic that is easy to understand in broad outline yet maddeningly complex in detail. Even as fundamental a question as the choice between PaM and PaP in English remain unsettled, and complexities abound when taking a broader range of data across languages into account. While this paper is not intended to settle all open issues, not even for Japanese, we believe it does make several important contributions. We have shown how facts about temporal reference and timeless counterfactuals can be brought to bear on the question of PaM vs. PaP, and argued against Ogihara (2014) that the latter is correct for Japanese Fake -ta. Along the way we argued that the Japanese counterparts of English SP subjunctives are not distinguished morphologically from ordinary indicatives. This highlights the fact that while English recruits Past/Perfect morphology for both SP and PP subjunctives, that pattern is not shared cross-linguistically.

A number of open issues are left for future work. For instance, while native informants generally agree that our example sentences have the readings that we attribute to them, in some cases other forms are available, sometimes even preferred. For instance, many speakers would prefer to insert aspectual -tei into the antecedents of counterfactuals about the past, even when that is not required for temporal reference. (For instance, some speakers prefer (26b) over (25b) on the PP reading.) We do not at present have enough pieces of the puzzle in place to offer an explanation for such preferences. Another somewhat problematic aspect is that our contention that the Japanese analogs of SP subjunctives are really indicatives does not really sit well with the fact that the same form is also used for timeless counterfactuals whose antecedents are mathematical falsehoods. Future work will tell whether and how those sentences differ from garden-variety SP conditionals.

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