THE SEMANTICS OF '-TA' IN JAPANESE FUTURE CONDITIONALS*

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Abstract

This paper contends that the so-called past tense morpheme *-ta* in Japanese is associated with either [+exclude context time] or [+exclude context world] (after Iatridou 2000) when used in the main clause of a sentence. When the latter is used in the consequent (i.e., the main clause) of a conditional, the entire conditional receives a true counterfactual interpretation in that the antecedent is presupposed to be false. On the other hand, when the former is used in the consequent of a conditional, the entire conditional is an epistemic conditional about a past time. What this means is that if *-ta* is used in the consequent of a conditional and points to a future time, the entire conditional must be a counterfactual conditional about the future time. In other words, this occurrence of *-ta* must be associated with [+exclude context world]. At least in Japanese, this occurrence of *-ta* with the [+exclude context world] feature must be interpreted in such a way that it is truly counterfactual. That is, the "future counterfactual sentences" of the type under discussion do not say that the proposition in the antecedent is unlikely to be true; it says instead that it is false. This type of interpretation closely resembles that of the English two-past counterfactuals that refer to future situations (e.g., If John's son had been born tomorrow (instead of yesterday), John would have been ecstatic.) In this article, I will argue for the position according to which the Japanese "past tense" morpheme *-ta* is capable of excluding the context world in the consequent of counterfactuals in the strict sense. This vindicates Iatridou's (2000) general proposal about the duality of past tense in natural language. For whatever reason, English requires both past tense and the perfect (=past perfect) to produce the same effect when a conditional talks about a fictitious future situation.

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1 Introduction

Japanese has many different ways of expressing counterfactual information. In this article, I shall present a view that is a straightforward extension of Iatridou's (2000) idea about counterfactual conditionals but shows that some occurrences of the Japanese "past tense" morpheme *-ta* indicate counterfactuality more straightforwardly than the English past. Japanese conditionals come in a variety of forms as shown below.[1] In order to talk about subjunctive conditionals, it is necessary to clearly distinguish between indicative conditionals and subjunctive conditionals. Many European languages distinguish between indicatives and subjunctives in terms of verb forms. For example, (1a-c) are conditional sentences in Spanish and exemplify an indicative conditional, an imperfect subjunctive conditional, and a past perfective subjunctive conditional, respectively. (1a) is an indicative conditional about the present or future; (1b) is a subjunctive conditional about the present or future; (1c) is a subjunctive conditional about the past.

(1) a. Si ganas más dinero, iremos a Bogotá.
if earn (ind) more money, we-go (ind) to Bogota.
'If you earn more money, we'll go to Bogota.'

b. Si ganaras más dinero, iríamos a Bogotá.
if earned (imp. subj) more money we-would-go (cond) to Bogota.
'If you had earned more money, we would have gone to Bogota.'

c. Si hubieras ganado más dinero, habríamosido a Bogotá.
if had earned (past perf subj) more money, we-would-have-gone to Bogota.
'If you had earned more money, we would have gone to Bogota.'

In general, subjunctive forms express various states of unreality. (1b) suggests that it is not likely that the hearer earns more money in the future; (1c) strongly indicates that the hearer did not get more money at the contextually salient past time. In languages like Spanish in which verb forms distinguish between the two moods, the distinction drawn between indicatives and subjunctives is based upon overt morphological differences. However, in Japanese, it is not possible to argue on the basis of verb forms alone that it has two distinct moods. Thus, we will employ the terms "indicative" and "subjunctive" in dealing with Japanese as convenient labels of the two distinct semantic roles associated with *-ta*, and not as a formal proposal about mood distinctions in Japanese. That is what I shall do in what follows. Using the terms that are relatively devoid of concrete meanings helps me to investigate Japanese conditionals without prejudging the content of the proposed semantics for *-ta*. When I talk more specifically about the semantic effects of the morpheme *-ta*, I shall use the terms "temporal/anterior" and "non-temporal/counterfactual/irrealis".

The guideline that I employ here to establish two distinct meanings of *-ta* is described as follows. A conditional as a rule posits a supposition in the antecedent, and draws a conclusion from it in the consequent. In most cases, the speaker does not posit a situation in the antecedent

[1] See Arita (1993) and many other related references for more information.

that she knows is true.[2,3] Thus, there are two scenarios in which using a conditional is reasonable. One possibility is that the speaker is unsure whether the situation in question occurs in the actual world. The other is that the speaker posits a situation that she knows or assumes does not obtain in the actual world. In both cases, the situation in question could be posited at three different temporal locations: past, now, or future. In what follows, I hypothesize that Japanese has these two types of conditionals, and refer to the first type as "indicative conditional" and to the second type as "subjunctive conditional". This distinction is not based on overt morphological differences in verb forms unlike Spanish and many other European languages but is a useful one in that it is confirmed by Japanese data as I shall show below. In Japanese, when the consequent is in the present tense as in (2) and the hypothetical events are located in the future, the entire conditional is understood to be an indicative conditional in the sense defined above.[4] In indicative conditionals, the matrix clause tense indicates the time under discussion. Japanese has no overt future tense morpheme, and the present tense morpheme has the two distinct roles to play: indicating the utterance time or a future time (see Ogihara 1996). (2) is one possible conditional construction that features the morpheme *-reba* in the antecedent clause. The *-reba* form is invariable, and it does not seem to be tensed. If the main clause is in the present tense as in (2), the time under discussion is either a future time or (a time overlapping) the utterance time. The examples in (2) show that the tense form of the antecedent clause does not affect the time under discussion or the nature of the entire conditional. All sentences in (2) are indicative conditionals, and I hypothesize that this is due to the fact that the consequent is in the present tense. Among the various forms introduced in (2), *-rebe* is particularly noteworthy because it is directly suffixed to the stem of the verb and is arguably tenseless.

(2) (Mosi) Saburoo-ga koko-ni ku-reba, Hanako-ga yorokobu(-daroo)-ne.[5]
if Saburo-NOM here-to come-REBA, Hanako-NOM be-pleased-PRES-probably-ENDING
ku-ru to 'come-PRESS TO'
ki-ta ra 'come-PAST RA'
ku-ru nara 'come-PRES NARA'
ki-ta nara 'come-PAST NARA'
'If Saburo comes/came here, Hanako will/would be pleased.'

[2]This can be derived as a scalar implicature. That is, if one says 'if p, then q', the hearer can assume 'it is possible that not p'. This means that the speaker does not assume that p is true. I thank Luka Crnič for drawing my attention to this account.

[3]If we are willing to drop the sentence-initial conditional marker *mosi*, we could even obtain conditionals in which the speaker assumes the truth of the antecedent proposition. An example of this type is given here in (i).

(i) a. A: Kaoiro-ga warui-wa. Byooin-ni i-ta hoo-ga ii-wa.
complexion be-bad hospital-to go-PAST direction-NOM better-ENDING
'You look pale. You should go see a doctor.'
b. B: Un. kimi-ga soo iu nara, byooin-ni iku-yo.
okay you-NOM so say NARA hospital-to go-PRES-ENDING
'Okay. If you say so, I will go see a doctor.'

So the crucial condition for indicative conditionals is perhaps that the speaker does not believe that antecedent is false.

[4]A possible counterexample to this generalization will be discussed below.

[5]The occurrence of mosi 'if' is optional, and depending upon the ending of the antecedent, the sentence sometimes sounds better without it. Therefore, I will enclose *mosi* within parentheses in the examples to be presented in this article.

On the other hand, when the consequent of a conditional is in the past tense (V-*ta*), the entire conditional is ambiguous between an indicative reading and a subjunctive reading. The variety of conditional sentences given in (3) and (4) all contain the same consequent with some possible variations in the verb ending forms in the antecedent. (3) lists cases where the entire conditional receives an indicative reading, and (4) a subjunctive reading. The judgments given in (3) and (4) are for the respective interpretations. Concentrating on indicative interpretations in (3), I find that the time being referred to must be a past time. This means that the consequent tense has a temporal interpretation. The main point here is that the tense form of the consequent determines the time under discussion in indicative conditionals, and therefore, all acceptable instances in (3) are about some relevant past time. With an indicative interpretation, the speaker is unsure whether the state of affairs described in the antecedent actually occurred in the real world, and claims on the assumption that this situation did/does occur that the consequent situation also occurred/occurs.

(3) (Mosi) Saburo-ga koko-ni (?) ku-reba, Hanako-ga yorokon-da(-daroo)-ne.
if Saburo-NOM here-to come-REBA, Hanako-NOM be-pleased-perhaps-ENDING
(#)[6] ku-ru to 'come-PRES TO'
ki-ta ra 'come-PAST RA'
(?)[7] ku-ru nara 'come-PRES NARA'
ki-ta nara 'come-PAST NARA'
'If Saburo came here, Hanako must have been pleased.'
[The judgments here are based on an indicative reading.]

Turning to subjunctive interpretations of conditionals with the same consequent in (4), we find a slightly different picture. On a subjunctive interpretation, the speaker generally assumes that the antecedent proposition is false in the real world at the contextually specified time. The conditional as a whole claims (very roughly) that in those possible worlds in which this proposition holds and are like the actual one otherwise, the consequent proposition also holds.

(4) (Mosi) Saburoo-ga koko-ni ku-reba, Hanako-ga yorokon-da(-ne).
if Saburo-NOM here-to come-REBA Hanako-NOM be-pleased-PAST
ku-ru to 'come-PRES TO'
ki-ta ra 'come-PAST RA'
(?) ku-ru nara 'come-PRES NARA'
ki-ta nara 'come-PAST NARA'
'If Saburo had come here (yesterday, tomorrow, etc.), Hanako would have been pleased.'
[The judgments here are based upon counterfactual readings.]

What is noteworthy here is the fact that when (4) is used as a counterfactual conditional, the time under discussion can be *any time*; it could be a past time or a future time. The time could even be a time containing the utterance time if the predicate in question is stative. The actual time

[6]This can only mean 'when Saburo came here' and strongly suggests that there were multiple occurrences of Saburo's coming here.

[7]This conditional is acceptable, but the antecedent must receive a "future reading" in relation to the time of the consequent or to the utterance time. In other words, the interpretation must be "If Saburo is going to come here" or "If Saburo was going to come here".

of the antecedent situation is determined by the utterance context in which the conditional occurs and/or any co-occurring temporal adverbial.

The generalization that emerges from the above data is that **the morpheme *-ta* in the consequent of a conditional indicates either temporal anteriority or counterfactuality**. This means that when *-ta* in the consequent overtly or covertly refers to a future time, only the latter possibility remains: it has to indicate counterfactuality. Strictly speaking, the same should be true when the time being referred to is the utterance time. However, it is not easy to establish this claim empirically as we shall see below. It is often difficult to distinguish between a claim made about a recent past and one about the utterance time, and this may contribute to the unclear status of conditionals with *-ta* in the consequent which refer to the utterance time.

When *-ta* indicates counterfactuality, the interpretation of the entire conditional sentence is affected. The interpretation is such that the antecedent clause posits a counterfactual situation, and the consequent provides a consequence of the counterfactual supposition. I shall argue that **the presence of *-ta* with the feature [+ exclude context world] in the root clause of a conditional is a sufficient condition for the conditional to receive a counterfactual interpretation**. My observation is that any conditional with *-ta* in the root clause in which the situations under discussion are posited in the future necessarily receive counterfactual interpretations. I leave open the possibility that a conditional with a root clause without *-ta* can produce a counterfactual interpretation. This is indeed suggested by some researchers, and I will discuss this possibility later in this article.

A word of caution is in order here. In this article, I will restrict my attention to conditionals with a consequent that does not involve embedding of the main event/state predicate. The type of conditional that I will deal with in this article is schematically represented as in (5). The important point here is that the verb in the consequent conjugates for tense and is then followed by optional adverbial expressions that do not conjugate.

(5) (Mosi) NP (V), . . . V-ru/ta (daroo) yo/ze/ne, etc.
if V-PRES/PAST probably sentence-ending particles

There are some special forms that embed the main event/state predicate in the consequent and produce a counterfactual effect. Some of them give rise to counterfactual interpretations with the event/state predicate in the present tense. (6) is a case in point (due to Arita 2004).[8]

(6) (Mosi) kimi-ga asu-no zyugyoo-ga kyuukoo-da-t te koto sirase-te
if you-NOM tomorrow-GEN class-NOM canceled the.fact inform
kure-nakat-ta ra, boku asu iku-tokoro da-yo.
NEG-PAST if I tomorrow go-be-about-to PRES
'If you had not told me that the class was canceled, I would have gone to the class tomorrow.'

The *-tokoro* construction, among others, is a construction that produces a counterfactual interpretation in conjunction with an 'if' clause. Note, however, that *-tokoro* is a Sino-Japanese nominal that could be followed by a tense morpheme, as shown in (7).

[8]Takubo (2003) also discusses the same construction.

(7) (Mosi) kimi-ga asu-no zyugyoo-ga kyuukoo-da-t te koto sirase-te
if you-NOM tomorrow-GEN class-NOM canceled the.fact inform
kure-nakat-ta ra, boku asu iku-tokoro dat-ta-yo.
NEG-PAST if I tomorrow go-be-about-to PAST-ENDING
'If you had not told me that the class was canceled, I would have gone to the class tomorrow.'

In fact, (7) is perfectly grammatical, and is a strongly preferred sentence for conveying the intended counterfactual interpretation associated with (6). When the root clause itself involves embedding, it is generally the case that the past tense form in the outermost predicate necessarily indicates counterfactuality when the time referred to is a future time. (8) is one example. It is a might-counterfactual, and the morpheme *-ta* in the root clause forces this reading upon us.

(8) (Mosi) Hanako-ga ikite I -ta ra, asita koko-ni kuru-ka.mo.sire.na-katta-ne.
if Hanako-NOM be.alive PAST, tomorrow here-to come-might.PAST ENDING
'If Hanako had been alive, she might have come here tomorrow.'

Thus, the main contention of this article stands: the so-called past tense morpheme *-ta* in Japanese is ambiguous between a temporal (temporal anteriority) meaning and a counterfactual meaning. This claim is modeled upon Iatridou's (2000) generalization that a past tense is used from a cross-linguistic point of view as a "true past tense" or as a "fake past tense". The proposal to be advanced in this article modifies (and strengthens) Iatridou's original idea by showing that the "fake past" in Japanese has a definitive role of excluding the actual world. Unlike English, the semantic contribution "fake past" *-ta* in Japanese is literally counterfactual as I shall show below.

The descriptive generalizations thus far obtained can be summarized as follows. In indicative conditionals, the tense form of the consequent receives a temporal interpretation. This is summarized in (9).

(9) consequent in indicative conditionals
-ta$_{\text{[+excludes context time]}}$ $\rightarrow$ indicative and refers to a past time

In subjunctive conditionals, I shall hypothesize that the presence of *-ta* (past tense) indicates counterfactuality. Since Japanese has only one tense form, when *-ta* is used for indicating counterfactuality, it cannot indicate anteriority. Temporal information thus must be supplied by the context or adverbial expressions. At this point, my proposal about the subjunctive *-ta* can be described as in (10). Since its temporal reference is underspecified, it could be any time (past, current or future) depending on the pragmatics and the co-occurring temporal adverbial (if any).

(10) consequent in subjunctive conditionals
-ta$_{\text{[+ excludes context world]}}$ $\rightarrow$ counterfactual and underspecified for time reference

Although Japanese conditionals have been studied by various researchers (see e.g., Takubo (1993) and many other articles collected in Masuoka (1993)), the crucial importance of *-ta* in the consequent of a conditional for counterfactuality has not been noted in the existing literature. In the next section, let us look at Iatridou's (2000) proposal about tense forms and counterfactual conditionals.

2 Iatridou's (2000) Hypothesis and Basic English Facts

Subjunctive conditionals are almost always used to set up a contrary-to-fact situation in the antecedent and to draw some conclusion in the consequent from this assumption thus established. In this section, I shall go over Iatridou's hypothesis about subjunctive conditionals with particular attention to English as a preliminary to a detailed discussion of Japanese facts. One important characteristic of English counterfactual conditionals is that the normal meaning of the tense morpheme in the antecedent does not correspond to the time the sentence talks about. The examples in (11) are typical. (11a) is an instance of what is called present (or one-past) counterfactual; (11b) is an instance of past (two-past) counterfactual.

(11) a. If John were (or was) in Japan, he would be happy.
b. If John had been in Japan, he would have been happy.

(11a) strongly suggests that John is not in Japan now, and posits counterfactually that he is now in Japan. The speaker then asserts that on this assumption, John will visit Kyoto. Note that the tense form used in the antecedent is the past tense form of *be*, but the time the sentence talks about is (the time surrounding) the utterance time. Assuming that past tense is normally used to indicate a past time, we find an apparent discrepancy between the tense form and the time being implicated. The same type of mismatch is observed in (11b). The tense form of the antecedent is a past perfect form (*had V-ed*), but the situation being described is one for which a simple past tense form seems more appropriate. Given that the past perfect is normally used to talk about a situation located prior to a pre-established salient past situation, we can find the same type of discrepancy here between form and meaning because the salient time is a past time that is contextually salient, not a time earlier than this pre-established time. The point is made clearer by the examples (12a, b), both of which are coherent discourses.

(12) a. In April 2001, John arrived in the U.S. He had left Europe a month earlier.
b. In April 2001, John lived in New York. If he had been in Japan, he would have lived in Tokyo.

In (12a) the past perfect (as well as the adverbial *a month earlier*) in the second sentence indicates that the time of John's leaving Europe precedes April 2001.[9] The adverbial *a month earlier* confirms this. On the other hand, in (12b) the time of John's hypothetical visit to Kyoto is April 2001. Thus the past perfect in (12b) corresponds to the simple past as far as time reference is concerned. Thus, (12b) shows a discrepancy between the tense form and the actual temporal reference.

The present and past counterfactual conditional forms are given schematically as in (13a, b), respectively. The antecedent of (13a) is in the simple past tense, but its meaning points to the utterance time. The antecedent of (13b) is in the past perfect form, but it describes a situation associated with a simple past tense form as shown in (12b).

(13) a. If . . . V-ed. . . . , . . . would V. . . .
(where V-ed indicates the past tense form of a (stative) verb, and V indicates the infinitival form of a (stative) verb)

[9] See Kamp and Reyle (1993), Ogihara (1996), etc.

b. If . . . had p.p. . . . , . . . would have p.p. . . .
(where p.p. indicates the past participial form of a verb)

This discrepancy is also observed in future less vivid (FLV) conditionals, which have exactly the same tense forms as the present counterfactual (13a) but make reference to future situations. (14) is a FLV conditional and is not counterfactual in that the proposition conveyed by the antecedent is not presumed false; it merely implicates that it is unlikely to be true. This difference between counterfactuals and FLV conditionals is an important one. But for now we only pay attention to the fact that a future situation can be described by a clause in the simple past tense and that there is a gap between the morphological form (past) and the temporal meaning (future).

(14) If it rained tomorrow, we would not play baseball.

A simple intuitive generalization that emerges from this discussion is that in counterfactual or FLV conditionals, English employs one "extra" past tense-like expression that does not have a temporal meaning. In present counterfactuals, past counterfactuals, and FLV conditionals, a tense morpheme occurs which does not indicate temporal anteriority. Iatridou's (2000) account says that the past tense morpheme *-ed* (or the perfect in the case of the past perfect) in English has ExclF (exclusion feature), which excludes either the context time (i.e., utterance time) or the context world (i.e., the actual world). In the case of the former, we obtain a regular preterit reading; in the case of the latter, we obtain a counterfactual interpretation or an interpretation that implicates that the antecedent proposition is unlikely to be true. The core idea is very simple and appealing. It is represented as in (15) (Iatridou 2000: 246).

(15) T(x) excludes C(x) (where x ranges over worlds and times)
E.g., T(t) indicates that t is the topic time, and C(t) indicates that t is the context time.

T stands for topic, and C context, the variable x can be a world or time variable. The past tense morpheme can be used for a temporal meaning, in which case the past tense morpheme is used to exclude the utterance time. This is taken to mean that it is used to talk about a past time. On the other hand, when the same past tense morpheme is used to exclude the context world (the actual one), then it indicates a non-real world, namely (presupposition or implication of) counterfactuality. As mentioned above, T stands for "topic" and this terminology is borrowed from Klein (1994). Following Klein, Iatridou is careful to note that when past tense has a preterit meaning, the topic time excludes the context time (i.e., the utterance time), but the event or state being depicted does not necessarily exclude it in the sense that the maximal interval throughout which a relevant situation holds may overlap the utterance time. For example, the truth of (16a) does not guarantee that at the utterance time John is no longer in his office. (16b) suggests pragmatically that the table is (still) wooden at the utterance time. Event sentences such as (16c) require that the same event no longer obtain at the utterance time. But the point is that the situation described by a past tense sentence does not necessarily exclude the context time (= utterance time); the topic time excludes the context time. In other words, the implicature can be canceled.

(16) a. John was in his office five minutes ago.
b. She walked into the room and saw a table. It was wooden.
c. John built a house.

In what follows, I shall employ the term "subjunctive conditional" as a cover term for past counterfactual, present counterfactual, and FLV conditionals in English. Iatridou contends that subjunctive conditionals allow their antecedent to be true in the actual world. Examples like (17) (Anderson 1951) indicate that the falsity of the antecedent is not required in subjunctive conditionals. In other words, (17) is compatible with the possibility that the patient has the measles; in fact, he has to have the measles according to the scenario. This could be taken to mean that the context world is not excluded completely by the morpheme *-ed*.

(17) If the patient had the measles, he would have exactly the symptoms he has now. We concluded, therefore, that the patient has the measles.

The same is true of FLV conditionals, in which past tense is used in a sentence that describes a future situation. In this case (e.g., (18)), the speaker merely suggests that the antecedent proposition is likely to be false and is fully aware of the possibility that it will be true. Thus, the context world is not really excluded. For concreteness, let us discuss the following scenario. Tomorrow is John's birthday and his son is likely to be born within a few days. John is hoping that his son will be born tomorrow so that he and his son will share the same birthday. But the obstetrician does not think that this is likely to happen. On this scenario, (18) is felicitous, but in this case the falsity of the antecedent is clearly not presupposed. According to the speaker's belief, the actual world is unlikely to be one in which the antecedent is true. However, it is possible that his son will be born tomorrow. There is no sense in which the falsity of the proposition "his son be born tomorrow" is presupposed or assumed.

(18) If his son was born tomorrow, John would be pleased.

Iatridou suggests that this is a welcoming fact rather than a problem for her proposal because something similar occurs in the temporal domain as well as shown in (16a, b). However, this conclusion may not be fully justified. Let us now examine the semantics of tense (i.e., the preterit meaning of past tense) and subjunctive conditionals in detail.

There are two competing (but not necessarily mutually exclusive) semantic analyses of the simple past tense as used in simple declarative sentences. The traditional view which stems from Prior's (1967) work and is assumed in the semantic literature is that the meaning of a past tense sentence involves existential quantification over past times.[10] An alternative, which has gained popularity in the linguistics literature, claims that past tense contributes a presupposition to the effect that it denote a past time, which is understood to be a contextually salient time. This is what Klein (1994) calls 'topic time' and is analogous to Reichenbach's (1947) reference time. By default, an event is located within the topic time, whereas a state is understood to contain the topic time.[11] Put simply, the difference between the two approaches is that past tense means either "there is a past time such that ..." or "the contextually salient time (topic time or reference time) is presupposed to be a past time". The presupposition view seems more in line with Iatridou's proposal. So let us assume that (19) is how the temporal meaning of past tense is represented. Here, the denotation of a sentence is assumed to be a temporal abstract (i.e., the characteristic

[10] This may not be Prior's view since his paraphrase into English involves the present perfect.

[11] Ogihara (1996) draws on both Prior's (1967) insight and Reichenbach's idea and claim that a sentence in the past tense means "there is a time t within the past reference time such that ..."

function of a set of intervals) and this applies to an interval to yield a truth value. I use a notational convention that is different from Iatridou's given in (15).

(19) Assume that a sentence is evaluated with respect to the context c, which provides both the world of the context (= the actual world), and the time of the context (= the utterance time). Let c_T indicate the utterance time. TopicTime (c) is the "topic time" for c and is a set of time intervals.
$[\![\text{NP Past VP}]\!]^c$ is defined only if $c_T \notin$ TopicTime (c) (which is understood to mean TopicTime (c) $< c_T$).[12] If defined $[\![\text{NP Past VP}]\!]^c = 1$ iff there is a time $t \in$ TopicTime (c) and $[\![\text{NP VP}]\!]^c(t) = 1$.

Turning to the other half of Iatridou's story, I contend that the standard semantics of counterfactual conditionals such as Lewis (1973) does not exclude the actual world in the same way that the preterit *-ed* excludes the utterance time (as shown in (19)). The basic intuition behind Lewis' (1973) proposal could be described in the following way: the antecedent of a counterfactual conditional standardly posits a contrary-to-fact situation. When evaluating the consequent clause on the basis of this supposition, we make *minimal* adjustments to the actual world necessary to make the proposition given by the antecedent true, and then assert that the consequent is true in this hypothetical situation.

Iatridou's idea can be couched in Lewis's semantics of counterfactuals as in (20) (ignoring temporal meaning). For simplicity, let us assume that each clause denotes a function from worlds into truth values.

(20) Assuming that *if p then q* is a subjunctive conditional, $[\![\text{if p then q}]\!]^c = 1$ iff the similarity hierarchy among worlds defined with regard to c_W (the context world) determines a set of worlds TopicWorld (c) (i.e. topic worlds), which are worlds closest to c_W among those w in which $[\![p]\!]^c$ (w) = 1, and in every world w_1 in TopicWorld (c), $[\![p]\!]^c$ (w_1) = true.

Here note that TopicWorld (c) can contain the actual world (i.e., c_W) at least in English. In fact, it has been argued that when the antecedent is true, we can afford to ignore non-actual worlds since the actual world is by definition closest to itself, and the set TopicWorld (c) is a unit set containing c_W. This interpretation of Iatridou's proposal does not afford a formal symmetry between the temporal interpretation and the counterfactual interpretation of *-ed* because in the case of the temporal interpretation of *-ed*, under no circumstance can we say that TopicTime (c) contains c_T.

To sum up, Iatridou suggests that her proposal captures the dual nature of past tense across languages, and I believe that her insight captures an important cross-linguistic generalization. Iatridou claims based upon examples like (16b) and (17) that the exclusion of the context time/world by a past tense is an implicature and is cancelable. However, it is not obvious that the English data that Iatridou cites establishes a clear parallel between the temporal and subjunctive cases. In the temporal case, tense itself is used in such a way that the topic time always excludes the utterance time (i.e., the context time). When the antecedent is a stative sentence, the state being described is allowed to extend beyond the context time. For example, when (16a) is true, John

[12] Iatridou assumes that future times do not exclude the context time. Thus, when she says that T(t) excludes C(t), T(t) is a past time (or a set of past times). Iatridou assumes that "future tense" is subsumed under modality. This is debatable. However, I will not challenge this assumption for the purpose of this article.

could still be in his office at the utterance time. Nevertheless, this consequence **is never required** for the truth of (16a). On the other hand, some English subjunctive conditionals allow the set of topic worlds to include the context world in that the truth of the consequent in the context world **is required** for the entire conditional to be true. Thus, it is arguable that the parallel between the alleged two uses of past tense suggested by Iatridou (2000) is not complete as far as English is concerned. In the next section, we will see how Iatridou's proposal fares in face of Japanese data involving subjunctive conditionals.

3 Japanese Subjunctive Conditionals and Iatridou's Hypothesis

In the rest of this article, I shall show that the Japanese past tense (*-ta*) substantiates Iatridou's hypothesis presented in (15) more straightforwardly than the English past tense (*-ed*). That is, when the Japanese past is used in the consequent clause of a subjunctive conditional, the entire conditional receives a genuine counterfactual interpretation in that the context world is completely excluded. Before we formally encode this idea, let us discuss some relevant Japanese data. In simple declarative sentences, the morpheme *-ta* suffixed to a verb indicates a past time as in (21a). As shown in (21b), it cannot describe the utterance time. Thus, it is safe to assume that *-ta* is comparable to the English past tense morpheme *-ed* though there are some known differences between them as discussed in the literature (e.g., Soga 1983).[13]

(21) a. Saburoo-wa sono toki Kyoto-ni i-ta.
Saburo-TOP that time Kyoto-at be-PAST
'Saburo was in Kyoto at that time.'

b. #Saburoo-wa genzai Kyoto-ni i-ta.
Saburo-TOP right now Kyoto-at be-PAST
Lit. 'Saburo was in Kyoto right now.'

It is also important to know how the non-past tense form *-ru* is used in simple declarative sentences. Note that in (22) *-ru* can indicate the utterance time or a future time. For details, the reader is referred to Ogihara (1996).

(22) a. Saburoo-wa ima Kyoto-ni i-ru.
Saburo-TOP now Kyoto-at be-PRESS
'Saburo is in Kyoto right now.'

b. Saburoo-wa raisyuu Kyoto-ni i-ru.
Saburo-TOP next.week Kyoto-at be-PRES

[13] As discussed by Soga (1983) and others, some occurrences of the "simple past" do not correspond to past tense sentences in English even in unembedded (= root) clauses. The following are among the typical examples.

(i) a. At-ta, at-ta.
be-past be-past
'It's here' (when the speaker finds something that she has been looking for)

b. A, basu-ga kita.
oh, bus-nom come-past
'Oh, our bus is coming.' (when you see the bus in the distance)

'Saburo will be in Kyoto next week.'

As shown in Section 1, Japanese conditionals are classified into two types: indicative and subjunctive. Japanese subjunctive conditionals (with no embedding of the event/state predicate in the consequent clause) must be in the past tense. Japanese subjunctive conditionals are those with the requirement (which I will claim is a presupposition) that the antecedent be false at the time relevant for the conditional in question. The simple and interesting hypothesis that we can entertain is the possibility that the Japanese past can genuinely exclude the context world in subjunctive conditionals, substantiating the stricter interpretation of Iatridou's (2000) hypothesis.

Japanese conditionals in (23a-c) can be interpreted as subjunctive conditionals, and their consequent clauses are in the past tense. Let me discuss them in turn.

(23) a. (Mosi) Saburoo-ga kinoo soko-ni i-ta ra, Ziro-o
if Saburo-NOM yesterday there-at be-PAST RA, Jiro-ACC
nagut-ta(-daroo)-ne.
hit-PAST-probably-ENDING
'If Saburo had been there yesterday, he would have hit Jiro.' or 'If Saburo was there yesterday, he must have hit Jiro.'

b. (Mosi) Saburoo-ga ima nihon-ni i-ta ra, yuumeizin
if Saburo-NOM now Japan-at be-PAST RA celebrity
dat-ta(-daroo)-ne. # Zituwa Saburoo-wa ima nihon-ni iru-noda.
be-PAST-probably-ENDING actually Saburo-TOP now Japan-at be-PRES
'If Saburo were in Japan now, (he would) be a celebrity. Actually, Saburo is now in Japan.'

c. (Mosi) asu-ga gantan-nara/dat-ta ra, Saburo-wa
if tomorrow-NOM new year's day be-PAST RA, Saburo-TOP
omairi-ni it-ta(-daroo)-ne. # Zissai, asita-wa gantan-da.
visit-shrine-PAST-probably-ENDING indeed tomorrow-TOP new year's day-PRES
'If tomorrow had been a new year's day, Saburo would have visited the shrine.'
'Indeed, tomorrow is a new year's day.'

(23a) can be either an indicative or subjunctive conditional. This is accounted for under Iatridou's (2000) assumption that the morpheme *-ta* excludes either the context time or the context world. When *-ta* is used for a temporal meaning, (23a) is an indicative conditional about a relevant past time. This is compatible with what the temporal adverbial indicates, i.e., *kinoo* 'yesterday'. On the other hand, when *-ta* is used for irrealis, (23a) is a subjunctive conditional, and the time under discussion is indicated by the adverbial *kinoo* 'yesterday'. Thus, both possibilities are licit, and (23a) is ambiguous as a result.

(23b) on the other hand is unambiguous, and this fact is straightforwardly accounted for by Iatridou's hypothesis. (23b) contains the adverbial *ima* 'now', which forces the time under discussion to be the utterance time, but it also contains a past tense morpheme in the consequent. This precludes the possibility that the conditional is an indicative conditional. The morpheme *-ta* then has a non-temporal meaning, and the entire sentence is a subjunctive conditional. More importantly, in order for the conditional in (23b) to be felicitous, its antecedent must be false (in the actual world) according to my judgment. That is, Saburo must be outside of Japan at the utterance

time. This is clear from the fact that the continuation in (23b) directly denies this presupposition and thus renders the entire discourse infelicitous.

(23c) is particularly important in establishing the "genuine counterfactuality" of the subjunctive *-ta*. (23c) clearly presupposes that the antecedent is false at the relevant future time. In other words, tomorrow must not be a new year's day in order for (23c) to be felicitous. The contrast between (23c) and (24) is clear. (24) differs from (23c) in that the consequent ends in a non-past tense form. What (24) describes may not be very plausible pragmatically, but is a possible state of affairs. For example, the speaker lost track of time having been alone on the ocean, etc. and is wondering about tomorrow, when he will be back in the "real world". Therefore, he does not know if tomorrow is a new year's day or not.

(24) (Mosi) asu-ga gantan-nara/dat-ta ra, boku-wa
if tomorrow-NOM new year's day be-PRES/-PAST RA, I-TOP
omairi-ni iku(-daroo)-ne.
visit-shrine.PRES-probably-ENDING
'If tomorrow was/is a new year's day, I would/will visit the shrine.'

The English sentence (25a) does not presuppose that the antecedent is false; the speaker does not preclude the possibility that tomorrow is a new year's day. It is a future less vivid (FLV) conditional in English and resembles (23c) with regard to tense configuration of the antecedent and the consequent. However, its semantics shows that it is more like (24). This establishes a noteworthy difference between English and Japanese. In order to obtain an English conditional that has the same interpretation as (23c), one must resort to (25b), which involves a past perfect in the antecedent and *would* + perfect in the consequent.

(25) a. If tomorrow was a new year's day, I would go to the shrine.
b. If tomorrow had been a new year's day, I would have gone to the shrine.

For the purpose of this article, the only point that matters here is that in English the simple past tense form (*was/would*) is not sufficient to indicate true counterfactuality in future cases. True counterfactuality can only be conveyed by the combination of two preterit-like expressions in both the antecedent and the consequent. I shall not discuss conditionals like (25b) further in this article. For details of how this construction could be analyzed from a compositional semantic viewpoint, the reader is referred to the relevant literature (e.g., Ogihara 2000, 2013, Ippolito 2003, 2006).

That the subjunctive *-ta* carries a definitive meaning of counterfactuality is confirmed by example (26). (26) is a Japanese variant of the first sentence in (17), and there is an important semantic difference between the English and Japanese versions. Since the past tense in the consequent indicates true counterfactuality of the entire conditional (i.e., this patient does not have cancer), this is not compatible with the conclusion that this patient has cancer now. Thus (26) is anomalous if the consequent is understood to be talking about the context time (the utterance time).

(26) #(Mosi) kono kanzya-ga gan dat-ta ra, ima (zissai) aru-itami-ga (ima)
if this patient-NOM cancer be-PAST now (in reality) exist-pain-NOM now
at-ta daroo. Dakara kare-wa gan-da.
exist-PAST probably therefore he-TOP has-cancer.PRES

[intended]'If this patient had cancer, he would suffer from the pain that he is now suffering. Thus, he has cancer.'

There is no simple way of translating (26) into English. The main point is that the antecedent definitely must be false in order for the entire conditional to be felicitous. This further substantiates the claim that the subjunctive use of *-ta* indicates true counterfactuality unlike its English counterpart.

Using Iatridou's idea and the above Japanese data, I will establish a parallel between the temporal -ta and the non-temporal *-ta*. Let me start with a paraphrase of the terms used in Iatridou's hypothesis. We can simplify Iatridou's proposal as in (27c).[14]

(27) Iatridou's Terms Paraphrased

a. Context Time: Let c_T stand for the context time for any context c.
b. Context World: Let c_W stand for the context world for any context c.
c. Topic Time-World Pairs: Topic (c) $\subseteq$ I $\times$ W, where I is the set of time intervals and W is the set of all possible worlds with the added condition that Topic (c) excluded either c_T or c_W (and not both) in the following sense: (i) **[Temporal Interpretation]** there is no world w such that $<c_T, w> \in$ Topic (c) OR (ii) **[Counterfactual Interpretation]** there is no time t such that $<t, c_W> \in$ Topic (c).
d. The option (i) in (27c) is adopted when the past tense morpheme *-ta* bears the feature [+ exclude context time], and the option (ii) is used when *-ta* bears the feature [+ exclude context world].

(27c) requires some remarks here. This clause shows the semantic effect of the past tense morpheme *-ta* in Japanese. (i) shows that each "topic pair" must contain a time coordinate that is not the utterance time, which is understood here to mean that it is a past time. This yields a preterit interpretation of *-ta*. (ii), on the other hand, shows that each "topic pair" must contain a world coordinate that is not the actual world. This produces a counterfactual interpretation of *-ta*. The above discussion establishes a formal parallel between the two uses of *-ta* in Japanese. This in turn provides strong support to Iatridou's conjecture (15) as reinterpreted in (27).

In sum, we can say quite simply that the morpheme *-ta* in Japanese is used as an exclusion feature (ExclF) in the sense of Iatridou (2000). When it is used for a temporal meaning, it excludes the context time (= utterance time) in that the topic worlds precede the context time. When it is used for a non-temporal meaning, it excludes the actual world in that the topic worlds exclude the context world. That is, the proposition conveyed by the antecedent of a conditional is presupposed to be false (in the actual world). This establishes a clear parallel between the two interpretations of *-ta* in Japanese.

4 A Formal Proposal for Japanese Subjunctive Conditionals

In the preceding sections, I introduced the basic ingredients of counterfactual conditionals in Japanese. Since the morpheme *-ta* indicates irrealis and not temporal anteriority in subjunctive conditionals, we know that the relevant temporal location must be indicated by adverbial expressions or contextual information. It has been shown in the literature (e.g., Ogihara 1996)

[14] I thank Luka Crnič for the idea expressed in (27c).

that Japanese has no sequence-of-tense phenomena and that the temporal information of embedded clauses is calculated in relation to that of the immediately higher clause. This is true of conditionals as well. In the case of counterfactual conditionals, the default temporal relationship between the antecedent and consequent situations is that of simultaneity. If the particular situation being depicted in the antecedent is simultaneous with that of the consequent, one can represent that in terms of appropriate adverbial expressions. The rule of thumb is that the time of the antecedent is simultaneous with that of the consequent when there is no adverbial in the antecedent or else the temporal location is specified by a temporal adverbial. If this is the system in place in Japanese, there is no semantic need for a tense morpheme in the antecedent. In fact, Japanese has an *if*-type construction in which the verb does not inflect for tense, i.e., the *-reba* construction. See (2) and (3) for examples.

What then is the semantic contribution of the tense form, if any, in the antecedent? My basic position is that either that tense forms receive temporal interpretations in relation to the matrix clause (e.g., *-ta nara, -ru nara* cases) or else the forms being used are "fossilized forms" that have no truth conditional information associated with them (e.g., *-ta ra, -ru to*). As can be seen from the examples in (28), the forms such as *-tara* and *-ruto* do not allow for tense variation. In other words, forms such as *-rura, -tato* do not exist.

(28) a. Kore-o tabe-ta ra genki-ni na-ru-yo.
this-ACC eat-past RA, get-better PRES

b. *Kore-o tabe-ru ra genki-ni na-ru-yo.
this-ACC eat-PRES RA, get-better PRES

c. Kore-o tabe-ru to genki-ni na-ru-yo.
this-ACC eat-PRES TO, get-better PRES

d. *Kore-o tabe-ta to genki-ni na-ru-yo.
this-ACC eat-PAST TO, get-better PRES
[intended] 'If you eat/ate this, you will/would get better.'

To show that the (tensed) forms used in the antecedent of a conditional do not have crucial truth conditional content that affects the interpretation of the conditional in question, I shall examine the examples in (29).

(29) a. (Mosi) ima soko-ni Saburoo-ga i-ta ra, Hanako-wa yorokon-de ir-u
if now there-at Saburo-NOM be-PAST Hanako-TOP be-pleased-PROG-PRES
daroo.
probably
'If Saburo is there now, Hanako must be pleased.'

b. (Mosi) asita ame-ga fut-ta ra, sanpo-ni-wa ika-na-i.
If tomorrow rain-NOM fall-PAST walk-to-TOP go-NEG-PRES
'If it rained/rains tomorrow, we would/will not go for a walk.'

c. (Mosi) ima soko-ni Saburoo-ga i-reba, Hanako-wa yorokon-de ir-u ne.
if now there-at Saburo-NOM be-REBA Hanako-TOP be-pleased-PROG-PRES
'If Saburo is there now, Hanako must be pleased.'

d. (Mosi) asita ame-ga fu-reba, sanpo-ni-wa ika-na-i.
If tomorrow rain-NOM fall-REBA walk-to-TOP go-NEG-PRES
'If it rained/rains tomorrow, we would/will not go for a walk.'

Both (29a) and (29b) have a past tense morpheme *-ta* in the antecedent clause. But crucially the consequent is in the present tense rather than in the past tense. As a result, the entire conditional does not have a counterfactual meaning. This is a point made earlier in Section 1. But this does not necessarily mean that tense forms in the antecedent have no semantic role to play at all. There may still be a subtler difference that a tense form in the antecedent makes. Nevertheless, whatever difference the tense choice in the antecedent makes cannot be the difference between FNV (future neutrally vivid) and FLV conditionals exemplified by (30a, b) (Iatridou 2000). (30a) (FNV) is neutral as to whether it will rain tomorrow, whereas (30b) (FLV) implicates that this is not likely.

(30) a. If it rains tomorrow, we will not go out for a walk. [future neutrally vivid]
b. If it rained tomorrow, we would not go out for a walk. [future less vivid]

In other words, there is no marked difference between (29a, b) and (29c, d) regarding the speaker's certainty unlike the contrast between FNV and FLV conditionals in English.

I now show that the tense form in the antecedent does not affect the overall nature of the conditional. The examples in (31) indicate that counterfactual conditionals could be formed with a present tense in the antecedent. The consequent of each conditional is in the past tense, and since the adverbial shows that the time of the matrix clause is a non-past time, the only interpretation available is a counterfactual one. (31a-d) are all acceptable. The question is whether there is any difference between (31a, b) on the one hand and (31c, d) on the other hand. As far as I can see, there is no difference between them. Both versions carry with them the same presupposition, namely that the antecedent proposition is false.

(31) a. (Mosi) ima soko-ni Saburoo-ga i-reba, Hanako-wa
if now there-at Saburo-NOM be-REBA Hanako-TOP
yorokon-de it-ta-daroo(-ne).
be-pleased-PROG-PRES probably
'If Saburo was there now, Hanako would be pleased.'
b. (Mosi) asita yakyuu-ga a-ru nara, mi-ni it-ta-daroo(-ne).
If tomorrow baseball (game)-NOM exist-PRES NARA watch go-PAST-probably
'If there had been a baseball game tomorrow, I would have gone to it.'
c. (Mosi) ima soko-ni Saburoo-ga i-ta ra, Hanako-wa
if now there-at Saburo-NOM be-PAST-RA Hanako-TOP
yorokon-de i-ta-daroo(-ne).
be-pleased-PROG-PRES probably
'If Saburo was there now, Hanako would be pleased.'
d. (Mosi) asita yakyuu-ga at-ta ra, mi-ni it-ta-daroo(-ne).
If tomorrow baseball (game)-NOM exist-PAST-RA watch go-PAST-probably
'If there had been a baseball game tomorrow, I would have gone to it.'

Thus, it is reasonable to conclude that the antecedent clause simply provides a time-independent proposition regardless of its tense morphology, and its temporal information is determined in relation to the matrix clause. This I believe is how the interpretation of Japanese conditionals is determined.

Thus, what appears to be a tense morpheme in the antecedent clause in a conditional does not provide well-defined temporal information. The forms *-reba, -tara, -ruto* are regarded as fossilized

forms that do not carry any information, temporal or otherwise. The antecedent clause provides information about a proposition, and its temporal location is determined either by a co-occurring temporal adverbial or by being construed as roughly simultaneous with the consequent. The formal proposal to be given below does not cover data involving V-*ru nara* or V-*ta nara*, which sometimes exhibit temporal interpretations.

Assuming that the past tense morpheme in the matrix clause determines the overall semantic character of a conditional, I shall propose a formal account of Japanese counterfactual conditionals in (32). The notation in (32) is based on (27) and (30). I assume a system in which the object language denotes a "proposition" of type <w,<i,t>> (where w is the type associated with worlds, and i the type of intervals). Each sentence is interpreted in relation to the utterance context c. Since the actual world and the utterance time can be retrieved from the utterance context, this is sufficient for our purposes. $[\![S_1]\!]^c = 1$ reads 'S_1 is true in the context c' and actually requires that $[\![S_1]\!]^c(c_W)(c_T) = 1$. Here is a concrete example: *Saburo-wa uti-ni iru* 'Saburo be at home'. The interpretation function provides the function **λw . λt . Saburo is home at t in w**, and this applies to c_W and c_T in turn to yield a truth value; if Saburo is at home at c_T in c_W, the sentence is true.

(32) A Japanese conditional of the form "Mosi S_1 to/ra/reba, S_2 ta" is syntactically analyzed as having the following structure at LF: [$_S$ mosi S_1 ruto/tara/reba, S_2-ta], where *-ta* has either of the following two features: [+ exclude context time] or [+ exclude context world].
Lexical semantics: $[\![\text{-ta}]\!]^c = \lambda f_{<w,<i,t>>}.\ \lambda w_w\ .\ \lambda t_i$: <w,t> ∈ Topic (c) . f(w)(t) = 1 (assuming that Topic has the semantic constraint given in (27c, d)).
Indicative Conditional: For all <w,t> such that <w,t> ∈ Topic (c) and $[\![S_1]\!]^c(w)(t) = 1$, $[\![S_2\text{-ta}]\!]^c(w)(t) = 1$.
Subjunctive Conditional: For all <w,t> such that <w,t> ∈ Topic (c) and w is closest to c_W among those w' in which $[\![S_1]\!]^c(w')(t)=1$, $[\![S_2\text{-ta}]\!]^c(w)(t)=1$.

Regarding indicative conditional interpretations, *-ta* is associated with [+ exclude context time] and Topic (c) excludes pairs that have c_T as a time coordinate. I assume further that the world coordinates of Topic (c) only include those that are compatible with what the speaker believes in the context c. The antecedent then adds an assumption to what the context provides. The temporal location must be a past time with an indicative interpretation.

As for subjunctive conditional interpretations, *-ta* is associated with [+ exclude context world] and Topic (c) excludes pairs that have c_W as a world coordinate. Here, I assume that the world coordinates only exclude the actual world since the antecedent of a subjunctive conditional cannot add information to what the speaker knows is true. This set of world-time pairs is further restricted by the antecedent and the closeness condition (Lewis 1973).

In both cases, the antecedent (further) restricts the worlds about which the consequent makes an assertion. This is consistent with the standard view attributed to Kratzer (1986).[15] It would be more desirable to embed the entire proposal in a more comprehensive theory of presupposition projection such as Heim (1992). However, this requires a separate paper-length research project.

I hope to have established a strong case for Iatridou's thesis based upon data involving Japanese conditionals. In my view, the proposal is appealing particularly because the parallel between the temporal and non-temporal cases is clear, and this type of ambiguity associated with past tense

[15]For an accessible introduction, the reader is referred to von Fintel and Heim (2011).

morphology is found across the world's languages. In Section 5, I shall discuss some potential issues and problems with my proposal.

5 Remaining Issues

The major point that I have made in this article is a simple one: the exclusion feature proposed by Iatridou (2000) about past tense morphology receives strong support from Japanese data. The "past tense morpheme" *-ta* with the feature [+ exclude context world] excludes the actual world in the strong sense when used in subjunctive conditionals. There are some issues that I was not able to discuss in the above sections. In this section, I will discuss them briefly.

This article completely ignores the aspectual forms in Japanese that can occur in conditionals for simplicity's sake. I acknowledge here that the progressive/resultative form *-te iru* can optionally be used in both antecedent and consequent clauses of conditionals. The *-te iru* form is used in declarative sentences to indicate on-going actions or results stemming from previous actions. (33a) describes an on-going event, whereas (33b) talks about a resultant state of a past event.

(33) a. Saburo-wa hasit-te i-ru.
Saburo-TOP run-PROG-PRES
'Saburo is running.'
b. Hito-ga taore-te i-ru.
person-NOM fall-RESULT-PRES
'Someone is lying on the ground (as a result of having fallen over).'

The fact that the same morpheme *-te iru* gives rise to two distinct interpretations is an interesting topic on its own (see Ogihara (1998)), but for our purposes we only need to see that in counterfactual situations, *-te iru* could be used without producing either of the two interpretations. Consider the examples in (34).

(34) a. (Mosi) asita koko-ni ki-ta-ra/ki-te i-ta ra, Saburo-wa
if tomorrow here-at come-PAST/come-TEI-PAST Saburo-TOP
sin-da/sin-de i-ta (-ne).
die-PAST/die-TEI-PAST
'If Saburo had come here tomorrow, he would have died.'

b. (Mosi) kinoo koko-ni ki-ta-ra/ki-te i-ta ra, Saburo-wa
if yesterday here-at come-PAST/come-TEI-PAST Saburo-TOP
sin-da/sin-de i-ta (-ne).
die-PAST/die-TEI-PAST
'If Saburo had come here tomorrow, he would have died.'
c. (Mosi) kinoo koko-ni ki-ta-ra, Saburo-wa sin-da(-ne).
if yesterday here-at come-PAST Saburo-TOP die-PAST
'If Saburo had come here yesterday, he would have died.' or 'If Saburo came here yesterday, he must have died.'

The use of *-te i* form in (34a) is completely optional in that adding it does not change the aspectual meaning of the sentence. The only semantic contribution it makes is that the *-te i*

form (especially the one in the consequent) makes the counterfactual interpretation more readily available. The *-te i* form in the consequent of (34b) has a more definitive role to play in that it disambiguates the conditional. This is clear when it is compared to (34c). (34b) only receives a counterfactual interpretation, whereas (34c) can receive both indicative and counterfactual interpretations as shown by the translations. The phenomena under discussion are somewhat similar to the role that the English perfect plays in counterfactual conditionals. The *-te i* form is similar to the English perfect in that it can indicate completed events or states in indicative contexts, so it is like a preterit to some degree. The difference between English and Japanese is that Japanese does not require the presence of two preterit-like expressions for counterfactuality. For the purpose of this article, I do not deal with this "optional indicator" of counterfactuality, but it is a potential issue for the future.

Another complication concerns the status of the morphemes such as *-no ni* which often occur in subjunctive conditionals. In Japanese subjunctive conditionals, one often finds morphemes that disambiguate otherwise ambiguous conditionals. For example, (35a) is ambiguous between a purely indicative reading and a counterfactual reading. To force it to receive a counterfactual reading, we have the option of adding a morpheme such as *-no ni* and *-ni* which indicates the remorse or regret on the part of the speaker about what could have happened but did not, as shown in (35b).

(35) a. (Mosi) Saburoo-ga sono-toki soko-ni i-ta ra, Hanako-ga yorokon-da
if Saburo-NOM then there-at there be-PAST, Hanako be-pleased-PAST
daroo.
probably
'If Saburo had been there at that time, Hanako would have been pleased.' or
'If Saburo was there at that time, Hanako (must have) been pleased.'

b. (Mosi) Saburoo-ga sono-toki soko-ni i-ta ra, Hanako-ga yorokon-da
if Saburo-NOM then there-at there be-PAST, Hanako-NOM be-pleased
daroo ni.
probably what-a-pity
'If Saburo had been in Japan then, Mary would have been pleased. (But that did not happen.)'

This can be taken to mean that *-noni* or *-ni* (which has a connotation of regret) is an expression that occurs in a subjunctive conditional to strengthen the meaning.

This type of morpheme may *create* a counterfactual context/conditional in that the presence of the morpheme alone guarantees that the entire conditional is counterfactual regardless of the tense form of the consequent. For example, (36a, b) show that although the consequent clause is in the present tense, it can receive (and in fact must receive) a counterfactual interpretation thanks to the addition of the "regret" marker *-noni*.

(36) a. Ano hito motto okanemoti-na-ra ii-noni.
that person more rich-be-COND good-PRES-NONI
'It would be nice if that person were richer.'

b. Ano hito motto okanemoti-dat-ta-ra ii-noni.
that person more rich-be-COND good-PRES-NONI
'It would be nice if that person were richer.'

This is not a problem for my proposal because it only makes a conservative claim about the subjunctive *-ta*: its presence in the root clause is **a sufficient condition** for the entire conditional to receive a counterfactual interpretation; it is **not a necessary condition**. In addition, I made no claim about the status of the phonetically null present tense. In particular, I did not claim that the Japanese present completely rejects counterfactuality. It is true that a root sentence in the present tense is almost always non-counterfactual. For our purposes, we assume that a root sentence without a special morpheme like *-daroo ni*, which triggers a counterfactual interpretation, receives an indicative (i.e., non-counterfactual) interpretation.[16]

6 Conclusion

In this article, I presented an analysis of the so-called past tense *-ta* in Japanese in subjunctive conditionals about the future. I adopted and reinterpreted Iatridou's (2000) proposal about the ways in which past tense morphology can indicate irrealis in addition to anteriority cross-linguistically (e.g. Modern Greek and English). The main claim of this article is that when *-ta* is used in a subjunctive conditional, it produces an interpretation according to which the context world (i.e., the actual world) must be excluded from the set of "topic worlds" (or accessible worlds). Since the temporal interpretation of *-ta* excludes the context time (i.e., the utterance time) from the topic time, this interpretation of counterfactual *-ta* allows us to draw a true parallel between the two different uses of *-ta*. Although we need to see if this generalization based on Japanese data can extend to similar data in other languages, this at least offers an interesting case of the duality of past tense morphology. Judging from linguistic data, humans consider past and irrealis as being similar. It is hoped that the proposal presented here will contribute to the cross-linguistic study of tense and counterfactuality.

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[16] Luka Crnič points out that the English conditional of the form *if only* ... also has a regret inference and has a subjunctive interpretation. We, however, do not know whether there is any significant parallelism between the two phenomena.

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