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Japanese Temporal Connectives: *~tara, tokoro, toki* -A Pragmatic Analysis-

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1.0. Introduction

Time expressions in Japanese have traditionally been considered an interesting but complex topic in Japanese language research studies. The complexity is attributed mostly to the tense and aspect system of Japanese, which involves the *-ru/-ta* markers that are used to denote both tense as well as aspect. Another area of time expressions that is considered potentially confusing in Japanese is the usage of temporal connectives. While English language uses ‘when’ connective to denote time ‘when some event occurred’, in Japanese there are several connectives that may be equivalent to this usage, such as, *~tara, tokoro, toki, to, tabi ni, koro, aida* and so forth. Of these temporal connectives, this paper will delineate three of them namely, *~tara, tokoro* and *toki*, and attempt to draw out comparisons in their usage in case of complex sentence constructions. These three connectives have an intrinsic semantic and pragmatic overlap when used to express temporality. For example,

- (1) Okaasan-ga akatyan-ni kusuri-o nomase-tara netu-ga sagatta.
mother-Nom baby-Dat medicine-Acc took caused-TARA fever-Nom declined
‘When the mother made the baby take the medicine, the fever subsided.’
- (2) Okaasan-ga akatyan-ni kusuri-o nomaseta tokoro netu-ga sagatta
mother-Nom baby-Dat medicine-Acc took caused TOKORO fever-Nom declined
‘When the mother made the baby take the medicine, the fever subsided.’
- (3) Okaasan-ga akatyan-ni kusuri-o nomaseta toki netu-ga sagatta.
mother-Nom baby-Dat medicine-Acc took caused TOKI fever-Nom declined
‘When the mother made the baby take the medicine, the fever subsided.’

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As shown in examples (1), (2) and (3), *~tara*, *tokoro* and *toki* clausal connectives can appear in the sentences without changing their meanings. However there are cases where the interchange is not readily possible.

- (4) Me-ga same-tara/*sameta tokoro/sameta toki moo hiru datta.
 eye-Nom awoke-TARA awoke TOKI already noon Cop-past
 ‘When I woke up, it was already noon.’
- (5) Rooka-o zutto itta tokoro-ni/*toki-ni/it-tara sooko-ga
 corridor-Acc all through went TOKORO-Loc went-TARA warehouse-Nom
 atta.
 existed
 ‘There was a warehouse when I went all the way through the corridor.’
- (6) Otona-ni nat-tara/*natta toki/*natta tokoro syooboosi-ni nari-tai.
 adult-Dat become-TARA fireman-Dat become-want
 ‘When I grow up, I want to become a fireman.’
- (7) Gakkoo-ni itta toki/*it-tara/*itta tokoro benkyoo sita.
 school-Loc went TOKI studied
 ‘When I went to school, I studied.’

Example (5) is from Akatsuka and Tsubomoto (1998: 118), (6) is from Netsu (1984: 192) and (7) is from Kuno (1973: 180). As shown *~tara* can appear in examples (4), (5) and (6) but not in (7). *Tokoro* can appear in example (5) but not in (4), (6) and (7). *Toki* can appear in examples (4) and (7) but not in (5) and (6).

The organization of this paper is as follows. Section 2 will outline selected previous literature on the three connectives. Section 3 will present a comparative analysis of the three connectives. Finally, section 4 will present the conclusions.

2.0. Previous Studies

2.1. *~tara*

Makino and Tsutsui (1987) state that “*~tara* is a subordinate conjunction which indicates that the action or state expressed by the main clause in a sentence takes place after the action/state expressed by the subordinate clause.” According to Kuno (1973), the condition of S1 *~tara* S2 (where S1 and S2 represent subordinate and main clauses respectively) is that a) S2 happens after S1 is completed, and b) there cannot be a self

controllable timing between the action or event represented by S1 and that represented by S2 when the *~tara* construction is used for referring to past tense. In other words, since S2 must represent a state or event that the subject of S1 cannot control therefore, S2 often represents an unexpected or surprising event. Examples (8) to (11) illustrate all of Kuno's conditions. Examples (9) to (11) are taken from Kuno (1973: 180-181)

- (8) John-ga ie-ni kaet-tara Mary-ga gohan-o tukutte kureta.
 John-Nom home-Loc returned-TARA Mary-Nom meal-Acc prepare gave-favor
 'When John returned home, Mary cooked the meal for him.'
- (9) *John-ga ie-ni kaet-tara gohan-o tukutta.
 John-Nom home-Loc returned-TARA meal-Acc prepared
 'When John returned home, he (John) cooked the meal.'
- (10) Gakkoo-ni it-tara benkyoo saserareta.
 school-Loc went-TARA studied did-causative passive
 'When I went to school, I was made to study.'

In (8), S2, *Mary-ga gohan-o tukutte kureta* 'Mary cooked the meal for him' happens after S1, *John-ga ie ni kaetta* 'John returned home' is completed. In addition, the subject of S1 (John) is not controlling the action in S2 'cooking dinner'. So the sentence is grammatical. However, as shown in (9), when the action in S2 'cooking dinner' is controlled by the subject of S1, subjects being the same, the sentence becomes ungrammatical. In (10), the subjects are the same but event in S2 is not controlled by him/her (due to the use of the causative passive) and thus it is also grammatical.

- (11) John-ga ie-ni kaet-tara Mary kara tegami-ga kite ita.
 John-Nom home-Loc returned-TARA Mary from letter-Nom come had
 'When John returned home, a letter had come from Mary.'

Sentence (11) sums up all of the conditions given by Kuno, that is, S2 is not controlled by the subject of S1 (John), S1 is completed before S2 and S2 represents an unexpected or surprising event. This accounts for the grammaticality of (11).

Jamashii's (1998) and Martin's (1975) descriptions are also similar to Kuno's. In S1 *~tara* S2 expressions, S1 has been realized at the time S2 takes place.

This form of *~tara* is used when S1 has been accomplished and in that situation, the speaker recognizes S2 and presents it either as new information or some new event based on the information given by S2. Also, S2 must represent a non-volitional act of the speaker and should also present a new discovery. In the cases when events in S2 turn out to be contrary to expectation, words like *angai* “on the contrary”, *igaina koto-ni* “unexpectedly”, *omoigakezu-ni* “had not even thought of” are used. For those cases where events are in line with the expectations, i.e., simple consequences, words like *an-no joo* “as expected”, *yappari* “after all”, etc. are used. Example 12 is from Jamashii (1998: 209).

- (12) Otite motomoto-to omotte siken-o uke-tara omoigakezu gookaku sita.
fail beginning-Comp thought exam-Acc took-TARA unexpectedly passed
‘When I took the exam thinking that I would surely fail, I passed it unexpectedly.’

Makino and Tsutsui’s (1987) description on *~tara* while essentially the same as Kuno’s, state that for past events, the action in S2 cannot be one intentionally undertaken by the agent after the action or event represented by S1. Also, S1 events must be completed before the event in S2 as in (13) from Makino and Tsutsui (1987: 452).

- (13) Sensei-ni kii-tara sugu wakatta.
teacher-Dat asked-TARA right away understood
‘When I asked my teacher, I understood it right away.’

Morita (1989) identifies S1 *~tara* S2 (for past events) to be similar to ‘*~ta tokoro*’ and ‘*~ta toki*’ constructions. It is common that the predicate in these patterns take the past tense. However, non-past predicates with a similar ‘when...then’ meaning is seen in literary texts as in (14) from Morita (1989: 288).

- (14) Soto-e de-tara ame-ga hutte iru.
outside-Loc went-TARA rain-Nom pouring
‘When I went outside, it was raining.’

Regarding the conditions on S1 *~tara* S2, Morita's postulation is essentially similar to that given by Makino and Tsutsui above.

Kaiser et al.(2001) emphasizes that in *~tara* sentences with past events, S2 cannot be controlled by the speaker, because it involves realization or discovery on the part of the speaker, in the sense of 'when....then'. Example (15) is from Kaiser et al. (2001: 473).

- (15) Denwa-de hanasi-tara musuko-ga naite komatta yo.
 telephone-Instr spoke-TARA son-Nom cry troubled SFP
 'When we spoke on the phone, my son was crying, and I didn't know what to do.'

In sum, in case of S1 *tara* S2 constructions, the subject of S1 cannot control the action or state expressed in S2 and the event depicted by S2 follows that of S1. When S1 has been accomplished, then in that situation, the speaker recognizes S2 and presents it either as new information or some new event based on the information given by S1. Also, S2 must represent a non-volitional act of the speaker and should also present a new unexpected event.

2.2. *tokoro*

Martin (1975) states that the noun *tokoro* (which has the short form *toko*) means place, but this meaning is often extended to situation, stage, point (in time), or occasion. He briefly mentions the use of S *tokoro* (where S is a clause) and points out that the meaning of this kind of *tokoro* construction is roughly equivalent to *~tara* 'when, if'. Example (16) is from Martin (1975: 727).

- (16) Sugu uti-e kaetta tokoro oosawagi-ga motiagatteita.
 right away home-Loc returned TOKORO much astir-Nom arose
 'When I came home right away, I found much astir.'

Additionally, he mentions that in nominal sentences of the form *suru/site iru/siyoo to site iru tokoro da*, the copula ‘*da*’ can be dropped and attached to particles² such as *e* or *ni* to express the point of time at which an event (in the following predicate) occurs often interrupting or frustrating the situation expressed by *tokoro*. Martin does not provide an explicit explanation on the conditions of *tokoro*. Example (17) is from Martin (1975: 728).

- (17) Syawaa-o abiyoo to site iru tokoro-e denwa-ga kita.
 shower-Acc bath Comp about to do TOKORO-Loc phone-Nom came
 ‘When I was about to step into the shower, the phone rang.’

Makino and Tsutsui (1995) define *tokoro* as a dependent noun that is used to express the idea that when someone did something, something took place as a result in S1 *tokoro* S2 sequence, where S1 is the subordinate clause while S2 is the main clause. Examples (18) to (20) are from Makino and Tsutsui (1995: 500-501)

- (18) Butyoo-ni tanonde mita tokoro yorokonde hikiukete kureta.
 department head-Dat request try TOKORO happily accept gave-favor
 ‘When I requested the department head, he was glad to do it.’

Furthermore, Makino and Tsutsui have clearly spelled out three restrictions applicable to the S1 *tokoro* S2 constructions. The first of these restrictions states that *tokoro* is used when someone does something intentionally. Thus, the *tokoro* clause must represent a volitional action. In other words, the action described by the verb in S1 must be performed volitionally by the subject of S1.

- (19) Sensei-ni soodan sita tokoro zehi daigakuin-ni iku yoo-ni to
 teacher-Dat consulted TOKORO surely graduate school-Loc go as Comp
 susume-rareta.
 recommended-passive
 ‘When I consulted the teacher, I was recommended by her/ him to enter the graduate school.’

² Use of *tokoro* with particles has been discussed by several authors, Martin (1975), Morita (1989), Jamashii (1989), but for the present study, *tokoro* without any particles will be considered for its temporal interpretation.

In (19), the verb in S1, *soodan-sita* ‘consulted’ is volitional. Hence the sentence is acceptable. Their restriction also explains the ungrammaticality of (20) below:

- (20) *Me-ga sameta tokoro moo hiru datta. (=4)
 eye-Nom awoke TOKORO already noon Cop-past
 ‘When my eyes opened, it was already noon.’

Since the S1 (*me-ga sameta* ‘awoke’) is non-volitional, this sentence violates the restriction mentioned above and thus the sentence becomes unacceptable. However, if S1 is made volitional as in (21), then the sentence becomes acceptable.

- (21) Me-o aketa tokoro moo hiru datta.
 eye-Acc opened TOKORO already noon Cop-past
 ‘When I opened my eyes, it was already noon.’

The second restriction states that the main clause after a *tokoro* clause must represent an event caused by the *tokoro* clause. In other words, S2 should be related to S1 in some way. Examples (22) and (23) are from Makino and Tsutsui (1995: 501).

- (22) *Tosyokan-ni itta tokoro Tomu-ga ita.
 library-Loc went TOKORO Tom-Nom existed
 ‘When I went to the library, Tom was there.’

In this sentence, the fact that Tom was in the library at the time I went there is not related to my action. It is because of this reason that the sentence becomes ungrammatical. It thus amounts to saying that the event in S1 must precede the event in S2. The third restriction states that S2 cannot represent a non-past event, as in (23).

- (23) *Watasi-ga tanonda tokoro kanozyo-wa itumo yorokonde site kureru.
 I-Nom requested TOKORO she-Top always happily do give-favor
 ‘Whenever I asked her, she always gladly does it for me.’

For the third restriction, Makino and Tsutsui (1995) do not state any condition for the verb in S1. It is important to include that the “verb in S1 is in the *-ta* form representing a past or completed action.” If this condition is not included, then the grammaticality of (23a) below, which has a non-past event in S2, cannot be explained.

- (23a)³ Itumo uti-o deyoo tosite iru tokoro-e denwa-ga kakatte kuru.
 always house-Acc leave about to TOKORO-Loc phone-Nom ring come
 ‘Whenever I am about to leave the house, the phone always rings.’

Notice that Makino and Tsutsui (1995) cannot explain the ungrammaticality of (24).

- (24) *Gakkoo-ni itta tokoro benkyoo sita.
 school-Loc went TOKORO studied
 ‘When I went to school, I studied.’

The *tokoro* clause ‘go to school’ represents a volitional verb (restriction 1), the 2 events in S1 and S2 share a relationship, that is, ‘going to school’ and ‘studying’ (restriction 2) and verb in S2, *benkyoo sita* ‘studied’ does not represent a non-past event (restriction 3). Therefore, Makino and Tsutsui’s conditions do not seem to be sufficient and are in need of adjustments.

Jamashii (1998) states that when *tokoro* attaches to the perfective form of the verb representing the action in S1, it provides an opportunity to express the realization or happening of the event that follows in S2. The events in S1 and S2 may not necessarily have a direct cause and effect relationship, but may include relationships like-when S1 happened, S2 happened by chance or coincidently. Also, Jamashii states that in the S1 *tokoro* S2 sentences, S2 utilizes the facts presented by S1 and bears a direct relation to the events that already happened in S1. That is to say, the events in S2, which express the speaker’s discovery of a particular situation, essentially emerged from what preceded in S2, that is, in S1. They, however, do not mention about the volitional or non-volitional nature of these acts in S1 or S2. Example (25) is from Jamashii (1998: 328).

- (25) a. Sensei-ni onegai-sita tokoro sassoku syoodaku-no ohenzi-o
 teacher-Dat requested TOKORO immediately approval-Gen reply-Acc
 itadaita.
 received
 ‘When I requested my teacher, I immediately received an approval from him.’

³ From an anonymous reviewer

- b. Eki-no isitubutu-gakari-ni toiawaseta tokoro todoite iru
 station-Gen lost property-incharge-Dat enquired TOKORO has reached
 to no koto datta.
 Comp Gen fact Cop-past
 ‘When I asked the lost and found incharge at the station, I was told that it
 (something) had reached.’

In example (25a), what follows in S2 (*sassoku syoodaku-no ohenzi-o itadaita* ‘received an immediate approval’) is something that the speaker finds out after having performed the action in S1 (*sensei-ni onegai sita* ‘requested the teacher’). Similarly in (25b), the surprise involved in the discovery of a lost object is evident in S2. Jamashii emphasizes this point. It is important to note that S1 in (25a) and (25b) are volitional. Therefore, the grammaticality of these two sentences can also be explained by Makino and Tsutsui’s first restriction. However, Jamashii fails to explain the following sentences:

- (26) a. *Ame-ga yanda tokoro Taroo-wa gakkoo-ni itta.
 rain-Nom stopped TOKORO Taroo-Top school-Loc went
 ‘When the rain stopped, Taro went to school.’
 b. *Me-ga sameta tokoro moo hiru datta. (=4)
 eye-Nom awoke TOKORO already noon Cop-past
 ‘When my eyes opened, it was already noon.’

Aoki (2000) offers a viewpoint on the temporal usage of *tokoro* that is quite different from the studies discussed so far. He states that there is an objective or goal that is pursued in S1. This motivated action in S1 then becomes the background for *tokoro* to specifically pin point a moment when the action in S1 is complete and the speaker is ready to recognize the result. Confirmation of the result takes place in S2 which is the most important place to see where the speaker’s motive was fulfilled or not.

- (27) Kanzume-o aketa tokoro naka kara kinka-ga dete kita.
 canned food-Acc opened TOKORO inside from gold coin-Nom came out
 ‘When I opened the canned food, a gold coin came out from inside it.’

The speaker in example (27) from Aoki (2000: 89) while opening the can is probably wondering about what is in the can. Driven by this curiosity (motivation), the subject

carries out the action in S1. The act in S1 is perfected with the use of *tokoro*. In other words, in the hope or expectation to see something in the can, the subject completes the action of opening and at that point in time, event in S2 occurs. The main action in S1 of opening the can is linked to the curiosity or expectation to know what is in it, which precedes or is simultaneous with the action of S1. At this point S2 has not occurred. What *tokoro* does is, that it picks the moment, at which the event in S2 came about while still keeping in mind the continuity of the sentence. *Tokoro* does this by reducing the completed event in S1 to a point in time where, event in S2 happened. And this is so because, it is only this point that acts as an access point into knowing what is inside the can (provided by S2).

- (28) Denwa-de toiwaseteta tokoro Okinawa yuki-ga moo manin datta.
 phone-Instr enquired TOKORO Okinawa bound-Nom already full Cop-past
 ‘When I enquired by phone, the Okinawa bound was already full.’

In example (28) from Aoki (2000: 90), action in S1 is conducted with an intention to know about the situation on the seat reservation. In the first part, the result is not known yet, only the motive drives to do the action. *Tokoro* makes this relation as the basis and specifies or pin points the exact situation when the enquiry actually took place. In other words, *tokoro* gives access to the concrete result, which in this case was the fact that the seats were full. The function of *tokoro* is to bring forth the specific situation where the result is revealed. The result could be favorable or unfavorable (as in 28) but it was expected from the beginning.

To summarize this section, in case of S1 *tokoro* S2 constructions, while Makino and Tsutsui (1987) do not consider the discovery factor in their discussion, Jamashii fails to mention anything about the volitional or non-volitional nature of actions in S1 and S2. Aoki (2000) takes a more pragmatic standpoint and attributes a dual character to *tokoro* in the following way. The S1 clause includes the motivated action of the subject of S1 as the background, reduced to a specific point in attention by *tokoro*. The following clause shows the result that emerged at the specific point marked by *tokoro*. So on one hand, subject’s (of S1) viewpoint is the focus in S1, while it ceases to be so

in S2. The new focus in S2 is the objective confirmation of the result by the speaker/narrator/observer.

2.3 *toki*

In most literature (such as Makino and Tsutsui (1987), Kaiser et al. (2001) etc.) *toki* by itself has been described to mean ‘time’, but when it is used as a dependent noun with a modifying phrase or clause, it means, ‘at the time when’ or ‘when’. The particle *ni* is optional. With *ni*, time is emphasized and sometimes comes under focus. McGloin (1989) adds that when *toki ni* is used, the speaker has a telescopic view of the time period and sees it from outside as a simple “point” in time.

According to Martin (1975), the post-adnominal *toki* means either ‘the occasion (when)...’ as a summational epitheme or ‘at the time that when’ as a transitional epitheme. In the summational usage, *toki* is used like *koto* ‘experience’, or like *baai* ‘situation’, with the ‘if’ reading, which is either directly adverbialized or attached with *ni* often meaning ‘in the event/case that....’. Sometimes the implication is that ‘whenever, on every occasion that...’. When *toki* is used as a transitional epitheme, the connection of the embedded clause either marked directly or by *ni* is fairly tight, and the choice of the perfect or imperfect for the adnominalized sentence is determined by the relative timing of the sentences involved, taking into account the inherent aspect of the verb. (29) below from Martin (1975: 730) illustrates the summational epitheme:

- (29) Mosi sunpoo-ga ookisugiru toki-wa hasami-de kireba yoi.
 if measurements-Nom too big TOKI-Top scissors-Instr cut if good
 ‘In the event that the measurements be too large, you can cut it with scissors.’

Martin, however does not give any further analysis on the timings of the events in the *toki* subordinate clause (S1) and the main clause (S2). Josephs (1972) states that *-ta toki* (perfective *toki* clause) represents a summational usage (term also used by Martin), that is, total completed event as a general background or framework, but with some overlap with the second event.

- (30) Kyooto-ni itta toki-ni densya-no naka-de takusan-no omosiroi hito-ni
 Kyoto-Loc went TOKI-Loc train-Gen inside-Loc many-Gen interesting people-Dat
 atta.
 met
 'When I went to Kyoto, I met a lot of interesting people on the train(s).'

In example (30) from Josephs (1972: 118), S2 and S1 are partially simultaneous, since the former occurs within the broader framework delineated by the latter. Josephs does not explicitly mention the transitional epitheme but illustrates the non-simultaneous or sequential interpretation of the perfective *toki* clause as in (31) from Josephs (1972: 118).

- (31) Kesa saihu-o nakusita toki-ni keikan-o yonda.
 this morning purse-Acc lost TOKI-Loc police-Acc called
 'This morning when/after I lost my purse, I called the policeman.'

Makino and Tsutsui's (1987) account delineates cases of different tense combinations that appear in S1 and S2 and the differences in meanings they entail. In the first case, they state that if S2 in S1 *toki* S2 is in the past tense and S1 expresses a state, the tense of S1 can be either past or non-past with no difference in meaning as given below from Makino and Tsutsui (1987: 493).

- (32) Watasi wa Nihon-ni iru/ita toki Tanaka-san-ni atta.
 I-Top Japan-Loc is/was TOKI Tanaka-Mr.-Dat met
 'When I was in Japan, I met Mr. Tanaka.'

However, when S1 in S1 *toki* S2 expresses an action, the meaning of the sentences change depending on the tense/aspect in the S1 and S2 clauses as shown below. Examples (33a) to (33d) are from Makino and Tsutsui (1987: 493).

- (33a) Watasi-wa gohan-o taberu toki te-o arau.
 I-Top food-Acc eat TOKI hands-Acc wash
 'I (will) wash my hands before I eat my meal.'
- (33b) Watasi-wa gohan-o tabeta toki te-o arau.
 I-Top food-Acc ate TOKI hands-Acc wash
 'I (will) wash my hands after I eat my meal.'

- (33c) Watasi-wa gohan-o taberu toki te-o aratta.
 I-Top food-Acc eat TOKI hands-Acc washed
 'I washed my hands before I ate my meal.'

- (33d) Watasi-wa gohan-o tabeta toki te-o aratta.
 I-Top food-Acc ate TOKI hands-Acc washed
 'I washed my hands after I ate my meal.'

In (32) with a stative verb in S1, a simultaneous reading between S1 and S2 is interpreted irrespective of the tense in S1. The verb in S1 represents a duration during which action of S2 occurred. The tense of the entire sentence in (33a-d) is decided by S2 with respect to the moment of speech, but the tense/aspect of S1 is interpreted by the event in S2 and not the moment of speech. In other words the overall tense of examples (33a) and (33b) is non-past, while that of (33c) and (33d) is past. This is so obtained because the matrix verbs in these complex sentences have time referents of their own (which is with respect to the time of speech). On the contrary, the *toki* clauses cannot have time referents of their own, but are controlled by the tense of the main clause as stated by Nakau (1976). Depending on the *-ru/-ta* morpheme in the verb of the *toki* clause, the event in S1 is taken to be either complete (before event in S2) as in (33a, c) or incomplete as in (33b, d) (before the event in S2). Therefore, the *-ru/-ta* morpheme of subordinate clause verbs have the function of imperfective/perfective aspect if the time of the subordinate clause event is under the control of the tense of the main clause. In the case of motion verbs (such as *iku* 'go') in S1, the interpretations are similar to that given above, as evidenced in (33e) and (33f) below.

- (33e) Nihon-e iku toki kamera-o katta.
 Japan-Loc go TOKI camera-Acc bought
 'I bought a camera when (before) I went to Japan.'

- (33f) Nihon-e itta toki kamera-o katta.
 Japan-Loc went TOKI camera-Acc bought
 'I bought a camera when (after) I went to Japan.'

There are also cases, when the action in S1 and S2 take place simultaneously or concurrently as in (34) and (35) from Makino and Tsutsui (1987: 494).

- (34) Watasi-wa Sikago-e iku toki kuruma-de iku.

I-Top Chicago-Loc go TOKI car-Instr go

‘When I go to Chicago, I go by car.’

- (35) Watasi-wa Sikago-e itta toki kuruma-de itta.

I-Top Chicago-Loc went TOKI car-Instr went

‘When I went to Chicago, I went by car.’

Unlike examples in (33a-f) which show sequential actions in S1 and S2 connected by *toki* (Martin’s transitional epitheme), (34) and (35) show simultaneous actions between S1 and S2 (Martin’s summational epitheme).

Sunakawa (1989) used the stative-dynamic dichotomy in S1 verbs only to explain the sequentiality or simultaneity of the events in S1 and S2. According to Sunakawa, for dynamic verbs, meaning changes depending on the *-ru/-ta* ending of S1 verbs while for stative verbs, the meanings do not change with the *-ru/-ta* switch. This was also mentioned by Makino and Tsutsui (1987) as already stated above. In Sunakawa’s analysis, if S1 is stative, then the simultaneous interpretation is obtained for cases in (i) and (ii):

(i) S1 *-ru toki* S2 *-ru /-ta*

- (36a) Ituka zikan-ga aru toki-ni asobi ni ikimasu yo.

sometime time-Nom have TOKI-Loc play for go SFP

‘I’ll visit you sometime (to spend time leisurely) when I have time.’

- (36b) Hima to kane-ga aru toki-wa yoku tomodati to nomi ni itta.

free time and money-Nom have TOKI-Top often friends with drink for went

‘I often went to drink with friends when I had time and money.’

(ii) S1 *-ta toki* S2 *-ta*

- (37) Watasi- ga kono ie-ni ita toki (koro)-wa mawari-wa hatake bakari

I-Nom this house-Loc was TOKI-Top surrounding-Top field only
datta.

Cop-past

‘When I was in this house, there were only fields around this place.’

On the other hand, if the S1 verb is dynamic, then there are several possibilities:

(iii) S1 *-ru toki* S2 *-ru/-ta* (E2, event in S2 happens before E1, event in S1).

- (38) Nihon-o tatu toki-ni tomodati-ga kuukoo made miokuri ni kite
 Japan-Acc depart TOKI-Loc friend-Nom airport upto see off for come
 kureta.
 give-favor
 ‘My friend came to see me off to the airport when (before) I left Japan.’

(iv) S1 *-ta toki* S2 *-ru/-ta* (E2 happens after E1).

- (39) Daigaku-o sotugyoo sita toki-ni syuusyoku-ga kimarimasita.
 college-Acc graduated TOKI-Loc job-Nom got decided
 ‘My job got decided when (after) I graduated from college.’

(v) S1 *-ru toki* S2 *-ru* (E1 and E2 are simultaneous).

- (40) Ano hito-wa sanpo-o suru toki itumo inu-o turete imasu.
 that person-Top walk-Acc do when always dog-Acc accompanying
 ‘That person always takes the dog along when he goes for a walk.’

These observations by Sunakawa are also confirmed in Miura (1974) as when the verb is stative referring to a past event, either *-ru* or *-ta* form may be used without a serious difference in the meanings as illustrated in examples (36) and (37) above. When verbs of motion (dynamic) like *iku* ‘go’, *kuru* ‘come’ are used before *toki*, either of *-ru* or *-ta* can be used and they are not interchangeable without a change in the meaning as seen in examples (33e) and (33f) above. Miura’s account agrees with Sunakawa’s account of S1 *-ru toki* S2 *-ru/-ta* in which E1 occurs shortly before, or at the same time as E2, while the S1 *-ta toki* S2 *-ru/-ta* combination designates the time of E1 before E2. However, Miura emphasizes that a *-ta* form preceding *toki*, when referring to a past action – especially if it is a non-habitual action – does not always signal ‘E1 before E2’. It may instead signal ‘E1 before moment of speech.’

- (41) Sumisu-san-wa gohan-o tabeta toki oisi soo ni tabeta.
 Smith-Mr.-Top meal-Acc ate TOKI tasty seem ate
 ‘Mr. Smith ate with gusto when he ate the meal.’

That is, according to Miura, E1 in example (41) from Miura (1974: 114), *gohan o tabeta* here signals ‘ate food’ before the time of the speech rather than before E2 (*oisi so ni tabeta*, ‘ate with gusto’).

This point made by Miura is also confirmed by Lee (1999), when he states that *toki* adjunct is interpreted both at the matrix event time and at the moment of speech. Lee bases his conclusion by assigning temporal structures to the *toki* clauses (using the Reichenbach’s (1947) theory of tense) and assigning different anchor points to the *toki* and main clauses to check for feasible interpretations. However, the bulk of the earlier studies (such as Netsu (1984), Hirata (1987), Inoue (1976) etc.) do not consider the moment of speech as the time of reference for E1.

Ogawa (1985) has analyzed *toki* clauses extensively based on the semantic properties of the verbs in S1 and S2 using a modified framework of Vendler’s (1967) four-way classification instead of the traditional binary ones (like those used by Sunakawa (1986), Nakazawa (1985)) and has concluded that restrictions on the usage of *toki* is based on the aspect of subordinate and main clauses. In the modified version of Vendler’s classification⁴, the verbs are divided into statives, achievements, accomplishments, activities and category 5 verbs (which have a distinct start point but then maintain a duration), typical for Japanese such as *suwaru* ‘sit’. The study highlights two interesting analyses. For the first part of the analyses, verb type in S2 was kept consistent as an achievement verb in all sentences. Examples (42a) to (49) are from Ogawa (1985: 87-90).

(a) Achievement verbs in S1 (S1 *-ru toki* S2 *-ta* gives E2 prior to E1 reading while S1 *-ta toki* S2 *-ta* gives E1 prior to E2 or simultaneous reading):

⁴ The Vendler’s aspectual classes can be sketched as follows:

States: Persist over time without change. (seem, know)

Activities: Involve a span of time and have inherent duration. Have no specific end point and are thus atelic. (sleep, snow, play, run, I studied all week)

Achievements: Capture the beginning or the end of the action and can be thought of as reduced to a point. (arrive, leave, notice)

Accomplishments: Are duratives like activities and have an endpoint like achievements (build a house)

- (42a) Sensee-ni au toki Taroo mo sasotta.
 teacher-Dat meet TOKI Taroo also invited.
 ‘I invited Taroo also when (before) I went to meet the teacher.’
- (42b) Taroo-wa watasi-o mita toki-ni nikkori waratta.
 Taroo-Top I-Acc saw TOKI-Loc burst-into smiled
 ‘Taroo burst into a smile when (after or at the time) he saw me.’
- (b) Accomplishment verbs in S1 (S1 *-ru toki* S2 *-ta* gives both E2 prior to E1 reading as well as simultaneous reading while S1 *-ta toki* S2 *-ta* gives only the simultaneous reading):
- (43a) Kimono-o kiru toki sode-no ura-o yabutta.
 kimono-Acc wear TOKI sleeve-Gen back-Acc tore
 ‘I tore the back of the sleeve, when (before or at the time) I wore the kimono.’
- (43b) Kimono-o kita toki sode-no ura-o yabutta.
 kimono-Acc wore TOKI sleeve-Gen back-Acc tore
 ‘I tore the back of the sleeve, when (at the time) I wore the kimono.’
- (c) Activity verbs in S1 (S1 *-ru toki* S2 *-ta* gives E2 prior to E1 reading, while S1 *-ta toki* S2 *-ta* gives the concurrent reading):
- (44a) Taroo-wa naku toki kao-o sikameta.
 Taroo-Top cry TOKI face-Acc frowned
 ‘Taroo frowned his face when (before) he cried.’
- (44b) Heya-no sooji-o sita toki okane-o mituketa.
 room-Gen cleaning-Acc did TOKI money-Acc found
 ‘I found money, when (at the time) I cleaned the room.’
- (d) Category 5 verbs in S1 (S1 *-ru toki* S2 *-ta* gives E2 prior to E1 reading, while S1 *-ta toki* S2 *-ta* gives the concurrent reading (effectively same as (c)):
- (45a) Siyakusyo mae-ni suwaru toki ziko-o mita.
 city-office front-Loc sit TOKI accident-Acc saw
 ‘I saw an accident when (before) I sat in front of the City office.’

- (45b) Siyakusyo mae-ni suwatta toki ziko-o mita.
 city-office front-Loc sat TOKI accident-Acc saw
 'I saw an accident when (at the time) I sat in front of the City office.'

In the second part of the analysis, Ogawa (1985) states that if Accomplishment, Activity or category 5 verbs are used in S2, then the event should have not been completed in S1. If the event in S1 has been completed before the S2 event happens, then the sentence is ungrammatical.

- (a) Accomplishment in S1 and S2:

- (46) *Geta-o nuida toki agatte kita.
 sandals-Acc removed TOKI came in
 'I removed my sandals when I came in.'

- (b) Achievement in S1 and Activity in S2:

- (47) *Tana-no ni-ga zujoo-ni otita toki ni zikan kizetu sita.
 shelf-Gen load-Nom head top-Loc fell TOKI two hours fainted
 'I fainted for 2 hours when the load from the shelf, fell on my head.'

- (c) Achievement in S1 and change (durative) in S2:

- (48) *Hanako-wa kusuri-o nonda toki kao iro-ga kawatte itta.
 Hanako-Top medicine-Acc drank TOKI face color-Nom changed
 'Hanako's face color was turning pale when she drank the medicine.'

- (d) Accomplishment in S1 and Achievement in S2 (grammatical sentence)

- (49) Geta-o nuida toki waratte itta.
 sandals-Acc removed TOKI laughed said
 'I laughed and said (something) when I removed my sandals.'

To sum up this section, the interpretations in *toki* clauses have been delineated on the basis of the *-ru/-ta* combinations of the *toki* and main clauses and also on the basis of semantic properties of the verb, namely dynamic or stative and the modified

four-way Vendler's classification. The following table from Lee (1999: 237) summarizes the tense combinations and possible interpretations of S1 *toki* S2 sentences.

Configuration	Temporal interpretation
S1 <i>-ru toki</i> S2 <i>-ru</i>	$S2 \rightarrow S1, S1=S2$
S1 <i>-ru toki</i> S2 <i>-ta</i>	$S2 \rightarrow S1, S1=S2$
S1 <i>-ta toki</i> S2 <i>-ru</i>	$S1 \rightarrow S2, *S1=S2$
S1 <i>-ta toki</i> S2 <i>-ta</i>	$S1 \rightarrow S2, S1=S2$

3.0. A Comparative Analysis

Section 2 discussed selected previous studies for each of the *~tara*, *tokoro* and *toki* connectives. This section will present a comparative analysis of these three connectives with respect to the following seven criteria:

- 3.1 Temporality versus Conditionality
- 3.2 Particles Following
- 3.3 Tense/Aspect sequences in S1 and S2
- 3.4 Subjects in S1 and S2
- 3.5 Volitionality versus Non-Volitionality
- 3.6 Time gap between E1 and E2
- 3.7 Continuity between E1 and E2-Pragmatic factors

3.1. Temporality versus Conditionality

Although all the three connectives attach with all predicate types, namely, verbs, nouns and adjectives, there are differences in the interpretations (temporal and/or conditional) that they take with these predicates. Since *~tara* is constituted of morpheme *-ta + -ra*, *-ra* attaches directly to the *-ta* form of the predicates unlike *tokoro* and *toki*. When *~tara* comes with adjectives or nouns or stative verbs, it takes only the conditional 'if' interpretation. With the verb predicates, it takes both the conditional 'if' and 'when' interpretation when the verb in S2 is non-past. For past events in S2, it

takes only the temporal ‘when’ interpretation. This is illustrated in examples (50) to (53a, b) below:

Adjectives (includes *i/na*)

- (50) Takakat-tara kawanai.
expensive-TARA not buy
‘If it is expensive, I will not buy.’

Nouns

- (51) Sensee dat-tara wakaru to omoimasu.
teacher Cop-TARA understand Comp think
‘If it’s the teacher, I think she’ll understand.’

Stative verbs

- (52) Deki-tara kite kudasai.
possible-TARA come give-favor
‘If possible, please come.’

Verbs

- (53a) Yamada-san-ga ki-tara watasi-wa kaerimasu.
Yamada-Mr.-Nom come-TARA I-Top return
‘If Mr. Yamada comes, I’ll return.’
- (53b) Taroo-ga uti-ni kaet-tara Mary-ga naite ita.
Taroo-Nom house-Loc returned-TARA Mary-Nom was crying
‘When Taroo returned home, Mary was crying.’

For *tokoro* just like *~tara*, all three predicate types may precede and it shows both temporal and conditional interpretations. (54) to (57) show examples of temporal interpretation.

Adjectives (includes *i/na*)

- (54) Oisogasii tokoro-o sumimasen desita.
busy TOKORO-Acc apologize Cop-past
‘I apologize when (because) you are so busy.’

Nouns

- (55) Oyasumi tyuu-no tokoro-o odenwa site sumimasen desita.
vacation middle-Gen TOKORO-Acc phone do apologize Cop past
'I apologize that I called you in the middle of your vacation.'

Verbs

- (56) Uti-o deyoo to-site iru tokoro-e ame-ga hutte kita.
house-Acc leave about-to do TOKORO-Loc rain-Nom poured
'It poured when I was about to leave the house.'
- (57) Uto-uto sita tokoro-e henna oto-ga sita.
doze off did TOKORO-Loc strange sound-Nom did
'Just as I had dozed off, there was a strange sound.'

However, unlike *~tara*, the conditional interpretation of *tokoro* is limited to the concessional usage, where it is essential that the predicate preceding *tokoro* takes the *-ta* form as shown below. Examples (59) to (61) are from Jamashii (1998: 334). It should be noted that in these instances, the use of particle *de* after *tokoro* is not optional:

Verbs

- (58) Titi-ni byooki-no koto-o itta tokoro-de sinpai bakari saseru-no
father-Dat illness-Gen fact-Acc said TOKORO-Loc worry only cause-Gen
ni tigainai.
no doubt
'(Even) If I tell my father about the illness, it will only cause him worry.'
- (59) Donna ni okureta tokoro-de seizei 5,6 pun da to omoimasu.
however got late TOKORO-Loc maximum 5,6 minutes Cop Comp think
'However late we get (even if that were to be the case), I think it would be a maximum of 5,6 minutes.'
- (60) Uti no otto wa syusse sita tokoro-de katyoo domari daroo.
my husband-Nom succeeded TOKORO-Loc section incharge stop perhaps
'(Even) If my husband succeeded, he will probably be stuck at the section officer level.'

Adjectives

- (61) Sonna ni kanasinda tokoro-de sinda hito-ga kaette kuru wake de-wa-nai.
that much saddened TOKORO-Loc dead person-Nom return come reason Cop-Neg
'The dead person is not going to come back even if you were saddened that much.'

Nouns

- (62) Oyasumi datta tokoro-de gomeewaku-o kakete-simatta.
vacation Cop-Past TOKORO-Loc nuisance-Acc cause-(with regret)
'I caused to create nuisance even though you were on vacation.'

In case of *toki* connective, like *tokoro* and *~tara*, all predicate types can occur and the temporal reading is predominant with them as shown in (63) to (65).

Adjectives (*i/na*)

- (63) Wakai/wakakatta toki yoku sake-o nonde ita.
young/was young TOKI often sake-Acc was drinking
'I often used to drink sake when I was young.'

Nouns

- (64) Gakusee-no/datta toki yoku benkyoo site ita.
student-Gen/Cop past TOKI well study was doing
'I used to study well when I was a student.'

Verbs

- (65) Nihon-e iku/itta toki kamera-o katta.
Japan-Loc go/went TOKI camera-Acc bought
'When I went to Japan, I bought a camera.'

The conditional usage of *toki* is restricted to the verbs and adjectives only. It does not show the conditional usage with nouns.

Verbs

- (66) Neru toki-wa denki-o kesite oite.
sleep TOKI-Top light-Acc switch off
'Switch off the lights if/when you sleep.'

Adjectives

- (67) Isogasai toki-wa yame-masyoo ne.
busy TOKI-Top give up-let's SFP

‘Let’s cancel it if we are busy.’

It must be pointed out that as compared to *~tara*, the connectives *toki* and *tokoro* show fewer instances of conditional usage vis-a-vis temporal usage. In case of *tokoro* conditionality, there is an implication that even if the event in S1 were to happen temporarily, what will happen in S2 is very trivial, that is, the degree, amount or number in S2 is not greatly significant as shown in (58) to (60). In case of *toki*, as shown in (66) and (67), the temporal interpretation is highly probable but the conditional interpretation is also plausible (which one is decided by the context).

3.2 Particles Following

Particles may or may not follow *tokoro* and *toki* but never follow *~tara*. In case of *toki*, the particle *ni* is optional. With *ni* time is emphasized and sometimes comes under focus as in examples (68), (69) from Makino and Tsutsui (1987: 492).

- (68) Gakusee-no toki yoku benkyoo sita.
 student-Gen TOKI well studied
 ‘I used to study well when I was a student.’

- (69) Gakusee-no toki-ni yoku benkyoo sita.
 student-Gen TOKI-Loc well studied
 ‘It was when I was a student that I studied well.’

According to Morita (1989), *tokoro* is usually followed by particles such as *ga*, *e*, *ni*, *o*, *de*, or copula *da*. Martin (1975) states that the ‘when/if’ meaning of *~tara* is roughly equivalent to the *S ta tokoro* with optional *ga* as in example (16) repeated as (70). In other temporal uses of *tokoro* with particles *e* or *ni*, the particle is usually not optional and the meaning is closest to the temporal usage of *sita toki* (Jamashii (1998)).

- (70) Sugu uti-e kaetta tokoro (ga) oosawagi-ga motiagatteita. (=16)
 right away home-Loc returned TOKORO much astir-Nom arose
 ‘When I came home right away, I found much astir.’

- (71) Uti-o deta tokoro-e tomodati-ga kita.
 house-Acc left TOKORO-Loc friend-Nom came
 ‘My friend came when I left the house.’

3.3. Tense/Aspect Sequences in S1 and S2

For *~tara* sentences with verbal predicates, S1 is perfective because *~tara* is composed of the *-ta* morpheme + *-ra*. In case of S2, it may either be perfective or imperfective leading to various restrictions on the interpretation of sentences.

- For the S1(+perf) *~tara* S2 (+perf) = it takes the ‘when’ interpretation (with the exception of state verbs).
- For the S1 (+perf) *~tara* S2 (-perf) = it may take the ‘when’ or ‘if’ interpretation depending on the certainty of S1 (as discussed in section 3.1 above).

Thus, in *~tara* sentences since S1 is always perfective, it is necessary that the action or event in S1 is completed before that in S2. Example (72) is from Kuno (1973: 180).

- (72) John-ga ki-tara Mary-ga kaetta.
 John-Nom came-TARA Mary-Nom returned
 ‘Mary returned when (after) John came.’

Mary’s returning took place only after John’s coming was completed. Even in cases where S2 is imperfective, the action in S1 needs to be completed before S2 as in:

- (73) Rainen-no natu-ni nat-tara Nihon-e ikimasu.
 next year-Gen summer-Loc become-TARA Japan-Loc go
 ‘I shall go to Japan in summer next year.’

- (74) Ame-ga hut-tara yame-masyoo.
 rain-Nom pours-TARA give up-let’s
 ‘If it rains, let’s give up.’

In (73), *Nihon e ikimasu* ‘I will go to Japan’ will be realized only after *Rainen no natu* ‘the onset of next summer’. Similarly, in (74) *yamemasyoo* ‘let’s give up’ will be completed after *ame ga hiru* ‘it starts to rain’. Therefore, it can be said that the aspect of S1 remains constant in *~tara* and is considered completed by the time of the event in S2.

In case of *toki*, the tense/aspect sequences are more complicated since there are four possible combinations available (as also discussed in section 2.3). The point to be noted for *toki* sentences is that according to most studies, the tense of S1 is not absolute

(that is it is not with reference to the time of utterance), but relative (that is, with reference to the time of the event in the main clause). Therefore depending on the ending of the verb in S1 (*-ru* or *-ta*), the event in S1 is either before or after with respect to the event in S2 and not with respect to the moment of speech⁵. In other words, in *toki* sentences, while the matrix verbs have their own time referents (which is the speech time), the verbs in *toki* clauses do not have their own time referents. Rather, they are under the control of the matrix tense and thus have the function of imperfective/perfective aspect (that is incompleteness/completion of the event with respect to the matrix event). Let us take a closer look at the following examples:

- (75a) Nihon-e iku toki kamera-o kau.
Japan-Loc go TOKI camera-Acc buy
'I'll buy a camera when (before) I go to Japan.'
- (75b) Nihon-e itta toki kamera-o kau.
Japan-Loc went TOKI camera-Acc buy
'I'll buy a camera when (after) I go to Japan.'
- (75c) Nihon-e itta toki kamera-o katta. (=33f)
Japan-Loc went TOKI camera-Acc bought
'I'll buy a camera when (after) I go to Japan.'
- (75d) Nihon-e iku toki kamera-o katta. (=33e)
Japan-Loc go TOKI camera-Acc bought
'I bought a camera when (before) I went to Japan.'
- (75e) Nihon-e iku/itta toki kamera-o motte itta.
Japan-Loc go/went TOKI camera-Acc carried
'I carried a camera, when I went to Japan.'

In (75a) and (75b) the tense of the entire sentence is future, so the action has not taken place yet, while in (75c) and (75d) it has taken place already. Here the tense of S2 is absolute, that is, it is with reference to the moment of speech. In (75a) and (75d), the verb in S1 takes the *-ru* ending (which can be taken to express imperfective in the case under consideration) and hence indicates that the action would not have taken place by the time of the action of S2. In (75b) and (75c) the verb ending in S1 is *-ta* perfective,

⁵ Although, Miura (1974) and Lee (1999) make an exception to this condition as discussed under subsection 2.3.

and so it is indicative of the completed before the action expressed by S2. Looking further closely, in (75d), the *-ru* form of the *toki* clause is interpreted as indicating an action that took place in the past, but not an action that will take place in the future (as when one would associate the non-past tense marker *-ru*), thus it follows that the *-ru* form of the *toki* clause cannot have its own referent, but is under the control of the main clause tense. Another instance is seen in (75b), where the *-ta* of the *toki* clause refers to future (completed action) rather than a past action (as one would associate with the past tense marker *-ta*). This is also evidence for the fact that *-ru/-ta* forms in *toki* clauses are subject to perfective/imperfective aspect interpretations and this is because they are under the control of the main clause tense with respect to the time reference. (75b) and (75c) are similar to the case of *~tara* above and hence can be interchanged with *~tara* to give grammatical sentences with no difference in meaning. Example (75e) illustrates a case of simultaneous reading where the *-ru/-ta* interchange in S1 does not cause a change in meaning. This particular interpretation is different from the ones shown in (75a-d) above where the *-ru/-ta* interchange caused a change in the meaning.

For *tokoro*, there is a restriction that is clearly spelled out by Makino and Tsutsui (1995). It states that S2 cannot represent a non-past event as shown below:

- (76) **Watasi-ga tanonda tokoro kanozyo-wa itumo yorokonde site kureru.*
 I-Nom requested TOKORO she-Top always happily do give-favor
 ‘Whenever I ask(ed) her, she always gladly does it for me.’

However (77) below shows that S2 can represent a non-past event, when S1 is non-past.

- (77)⁶ *Itumo watasi-wa kare-ga oodan hodoo-o wataru tokoro-o mokugeki suru.*
 always I-Top he-Nom crosswalk-Acc cross TOKORO-Acc watch
 ‘I always watch him when he crosses the crosswalk.’

Hence the important condition that Makino and Tsutsui’s (1995) third restriction leaves out is that S2 cannot represent a non-past event ‘when the verb in S1 is past or completed.’ If S2 has a past event, then the verb before *tokoro* can be past as in (78) =

⁶ From an anonymous reviewer

(28) or non past as in (79) and will behave in the same way as the corresponding patterns in *toki* seen above.

- (78) Denwa-de toiwaseto tokoro Okinawa yuki-ga moo manin datta.
 phone-Instr enquired TOKORO Okinawa bound-Nom already full Cop past
 ‘When I enquired by phone, the Okinawa bound was already full.’
- (79) Denwa-de toiwaseyoo to-site-iru tokoro-e fakkusu-ga kita.
 phone-Instr enquire about-to-do TOKORO-Loc fax-Nom came
 ‘When I was about to enquire by phone, the fax came in.’

3.4. Subjects in S1 and S2

In case of *~tara*, Kuno (1973) has given a restriction for the past events in S2. That is, the subject of S1 should not control the action in S2 in past events. Thus if the subject of S1 is controlling the action in S1, then in that case the subject of S2, if controlling action in S2 needs to be different from S1. Furthermore, if the subjects are different, the second subject cannot be the speaker. However, this restriction does not hold in sentences with non-past S2 verbs. For example in non-past sentences (80) and (81), the speaker can be the subject in S2:

Non-past:

- (80) Uti-e kaet-tara denwa suru.
 home-Loc return-TARA call (by phone)
 ‘I’ll call you when I get home.’
- (81) Titi-ga uti-e kaet-tara watasi-wa denwa suru.
 father-Nom house-Loc return-TARA I-Top call (by phone)
 ‘I’ll call when my father gets home.’

However, in past sequences (past S2 verb), neither the speaker (82), (84) nor the subject controlling the action of S1 (83) can be the subject controlling the action in S2.

Past:

- (82) *Gakkoo-ni it-tara benkyoo sita.
 school-Loc go-TARA studied
 ‘When I went to school, I studied.’

- (83) *Hanako-ga ginkoo-ni it-tara kogitte-ni sain-o sita.
Hanako-Nom bank-Loc go-TARA check-Loc sign-Acc did
'When Hanako went to the bank, she signed on a check.'
- (84) *Hanako-ga ginkoo-ni iku to it-tara watasi-wa kogitte-ni sain-o sita.
Hanako-Nom bank-Loc go Comp say-TARA I-Top check-Loc sign-Acc did
'When Hanako said that she will go to the bank, I signed on a check.'

The restriction for *tokoro* is similar to *~tara*:

- (85) *Gakkoo-ni itta tokoro benkyoo sita. (= 24)
school-Loc went TOKORO studied
'When I went to school, I studied.'
- (86) *Hanako-ga ginkoo-ni itta tokoro kogitte-ni sain-o sita.
Hanako-Nom bank-Loc went TOKORO check-Loc sign-Acc did
'When Hanako went to the bank, she signed on a check.'
- (87) *Hanako-ga ginkoo-ni iku to itta tokoro watasi-wa kogitte-ni sain-o sita.
Hanako-Nom bank-Loc go Comp said TOKORO I-Top check-Loc sign-Acc did
'When Hanako said that she will go to the bank, I signed on a check.'

However, this restriction does not hold for *toki* sentences. Both the speaker (89, 90) as well as the subject controlling the action of S1 (88, 89) can be the subject in S2 controlling the action in S2. (88) is from Akatsuka and Tsubomoto (1998: 123).

- (88) Taroo-wa Ginza-o aruite iru toki Hanako-ni puropoozu sita.
Taroo-Top Ginza-Acc walking TOKI Hanako-Dat proposed
'Taroo proposed Hanako while walking in Ginza.'
- (89) Uti-e kaetta toki denwa sita.
home-Loc returned TOKI called (by phone)
'I called when I returned home.'
- (90) Hanako-ga genkan-e kita toki watasi-ga soko-de matte ita.
Hanako-Nom porch-Loc came TOKI I-Nom there-Loc was waiting
'I was waiting when Hanako came to the porch.'

3.5. Volitionality versus Non-Volitionality⁷

The discussion on Volitional-Non Volitional nature of the verbs in S1 and S2 is related to the control exercised by the subject as discussed in the previous sub-section, but this aspect is being treated separately in this sub-section so as to bring out the similarities and differences in all possible combinations of volitionality and lack of it in S1 and S2 for *~tara*, *tokoro* and *toki* connectives. The verb types for S1 are restricted to achievement or accomplishment (telic verbs). Let's begin with *~tara*:

As seen in section 3.4, S1 and S2 can be both volitional if and only if the subjects controlling the actions are different. In case of same subject in S1 or speaker subject controlling the action in S2 volitionally, the sentences become ungrammatical as in examples (91a, b).

V1-V2 (s1=s2⁸)

- (91) a. *Gakkoo-ni it-tara benkyoo sita. (=82)
 school-Loc went-TARA studied
 'When I went to school, I studied.'

- b. *Hanako-ga ginkoo-ni it-tara kogitte-ni sain-o sita. (=83)
 Hanako-Nom bank-Loc went-TARA check-Loc sign-Acc did
 'When Hanako went to the bank, she signed on a check.'

The V1-NV2 combinations are all grammatical, because S2 is out of the control of s1 as seen in (92a, b):

V1- NV2

- (92) a. Mado-o ake-tara soto-wa ame datta.
 window-Acc opened-TARA outside-Top rain Cop-was
 'When I opened the window, it was raining outside.'
- b. Yamada-san-wa kaisya-o yame-tara sutoresu-ga nakunatta.
 Yamada-Mr.-Top company-Acc resigned-TARA stress-Nom vanished
 'When Mr. Yamada resigned from his job, his stress vanished.'

⁷ Volitionality refers to the action being under the control of the doer of the action while non-volitionality refers to the action not being under the control of the doer of the action.

V= Volitional action

NV= Non-volitional action

⁸ s1 is the subject of S1 while s2 is the subject of S2.

NV1-V2 combinations are good as long as the subject in S2 is not the speaker as in (93b). (93a) is ungrammatical because of speaker subject in S2:

NV1-V2

- (93) a. *Ame-ga yan-dara gakkoo-ni itta.
rain-Nom stopped-TARA school-Loc went
'When the rain stopped, I went to school.'
- b. Ame-ga yan-dara Hanako-wa gakkoo-ni itta.
rain-Nom stopped-TARA Hanako-Top school-Loc went
'When the rain stopped, Hanako went to school.'

Just like V1-NV2 cases, the NV1-NV2 cases also yield grammatical sentences.

NV1-NV2

- (94) a. Me-ga sameta-ra moo hiru datta. (=4)
eye-Nom awoke-when already noon Cop-past
'When my eyes opened, it was already noon.'
- b. Hanako-wa me-ga sameta-ra moo hiru datta.
Hanako-Top eye-Nom awoke-when already noon Cop-past
'When Hanako's eyes opened, it was already noon.'

For *tokoro*, according to the restriction put forth by Makino and Tsutsui (1995) S1 must contain a volitional verb in the *tokoro* sentence⁹. S1 can never contain a non-volitional verb and if it does then the whole sentence becomes bad irrespective of what is contained in S2 as in examples (97) and (98).

V1-V2 (s1=s2)

- (95) a. *Gakkoo-ni itta tokoro benkyoo sita. (=24)
school-Loc went TOKORO studied
'When I went to school, I studied.'

⁹ As pointed out by an anonymous reviewer, some *tokoro* sentences with S1 containing a non-volitional verb are grammatical, such as:

Okane-ga nakunatta tokoro takarakuzi-ga atatta.
Money-Nom run out when lottery-Nom struck
'When my money ran out, a lottery struck.'

However, it may be fair to say that these kind of sentences are very few in number when compared to the large number of ungrammatical sentences that are yielded with this same condition.

- b. *Hanako-ga ginkoo-ni itta tokoro kogitte-ni sain-o sita. (=83)
 Hanako-Nom bank-Loc went TOKORO check-Loc sign-Acc did
 ‘When Hanako went to the bank, she signed on a check.’

V1-NV2

- (96) a. Mado-o aketa tokoro soto-wa ame datta.
 window-Acc opened TOKORO outside-Top rain Cop-past
 ‘When I opened the window, it was raining outside.’
 b. Yamada-san-wa kaisya-o yameta tokoro sutoresu-ga nakunatta.
 Yamada-Mr.-Top company-Acc resigned TOKORO stress-Nom vanished
 ‘When Mr. Yamada resigned from his job, his stress vanished.’

NV1-V2

- (97) a. *Ame-ga yanda tokoro gakkoo-ni itta.
 rain-Nom stopped TOKORO school-Loc went
 ‘When the rain stopped, I went to school.’
 b. *Ame-ga yanda tokoro Hanako-wa gakkoo-ni itta.
 rain-Nom stopped TOKORO Hanako-Top school-Loc went
 ‘When the rain stopped, Hanako went to school.’

NV1-NV2

- (98) a. *Me-ga sameta tokoro moo hiru datta. (=4)
 eye-Nom awoke TOKORO already noon Cop-past
 ‘When my eyes opened, it was already noon.’
 b. *Hanako-wa me-ga sameta tokoro moo hiru datta.
 Hanako-Top eye-Nom awoke TOKORO already noon Cop-past
 ‘When Hanako's eyes opened, it was already noon.’

The difference between *tokoro* and *~tara* is that S1 must contain a volitional verb in *tokoro*, an additional restriction for *tokoro* while in *~tara* all combinations are acceptable except when the subject controls the action in S2 or if the speaker is the subject in S2. For *toki* sentences, no restrictions hold for volitionality and all combinations are possible as seen in examples from (99) to (102). (100) is from Nakazawa (1985: 144); (101), (102) are from Lee (1999: 234); (103) is from Lee (1999: 234).

V1-V2

- (99) Erebeetaa-ni notta toki tuui sita.
elevator-Loc rode TOKI cared
'When I got in the elevator, I was careful.'

V1-NV2

- (100) Jiroo-wa hon-o yonde ita toki sore-o Hanako-ni toriagerareta.
Jiroo-Top book-Acc was reading TOKI that-Acc Hanako-by taken away
'When Jiroo was reading a book, he had it taken away by Hanako.'

NV1-NV2

- (101) Hikooki-ga Narita-ni tuita toki hidoku yureta.
plane-Nom Narita-Loc reached TOKI terribly bounced
'When the plane arrived in Narita, it bounced terribly.'

NV1-V2

- (102) Hikooki-ga Narita-ni tuku toki watasi-wa oriru zyunbi-o sita.
plane-Nom Narita-Loc reach TOKI I-Top get off preparation-Acc did
'When the plane was about to reach Narita, I prepared to get off.'

3.6. Time gap between E1 and E2

For *toki* sentences, there are three possibilities, that is, E1 prior to E2, E2 prior to E1 and both contemporaneous. According to Hirata (1987), the two events in the *toki* sentences are either overlapping or successive. They cannot be very far apart as one in past and the other in present or at two different time periods set far apart as in (103).

- (103) * Nihon-ni iku toki Empire State biru-ni nobotta.
Japan-Loc go TOKI Empire State Building-Loc climbed
'When I went to Japan, I climbed the Empire State building.'

(103) is usually¹⁰ not plausible even if the desired sequence is E2 prior to E1 (that is, I climbed the Empire State Building before going to Japan). A more appropriate connective would be *mae ni* "before".

¹⁰ Sentence (103) becomes possible if the speaker is far away and stopped by New York en-route to Japan.

According to Netsu (1984), in *~tara* sentences, the length of the interval between the 2 events range from very short (105) to a relatively long period of time (104). The *~tara* clause itself implies the length of the interval between the 2 events is either non-existent or relatively long, depending upon its context. This implication arises from the fact that the function of the *~tara* clause is to provide the notion of completion. Thus, unless specified by temporal adverbials, temporal interpretation of the S1 *tara* S2 construction (whether it is simultaneous or sequential) depends on the context. In both the sentences (104), (105) from Netsu (1984: 192) there is some time gap between E1 and E2.

- (104) Otona-ni nat-tara syooboosi-ni nari-tai. (=6)
 adult-Dat become-TARA fireman-Dat become-want
 ‘When I grow up, I want to become a fireman.’
- (105) Mado-o ake-tara suzusiku natta.
 window-Acc opened-TARA cool became
 ‘When I opened the window, it became cool.’

According to Morita (1989), in *tokoro* clauses, the sentences could be either sequential (106) or simultaneous (107):

- (106) Takusii-de itta tokoro miti-ga konde ite tikoku sityatta.
 taxi-Instr went TOKORO street-Nom crowded got late
 ‘After having taken the taxi, since the streets were crowded, I got late.’
- (107) Dekakeyoo to-site-iru tokoro-e denwa-ga kakatte kita.
 leave about-to-do TOKORO-Loc phone-Nom came
 ‘The phone came when I was about to leave home.’

In (107) situations in S1 and S2 overlap. In other words, the time of occurrence of S2 is the time of the occurrence of S1. And *tokoro* specifies this relation.

3.7. Continuity between E1 and E2 – Pragmatic factors

In *tokoro* clauses, Makino and Tsutsui (1995) state a condition that the main clause after a *tokoro* clause must represent an event caused by the *tokoro* clause. In other words, S2 should be related to S1 in some way.

- (108) *Tosyokan-ni itta tokoro Tomu-ga ita. (=22)
 library-Loc went TOKORO Tom-Nom existed
 ‘When I went to the library, Tom was there.’

In this sentence, the fact that Tom was in the library at the time I went there is not related to my action. It is because of this reason that the sentence becomes ungrammatical. Aoki (2000)’s comment that S1 should contain a motivation for the event in S2 to happen can also be used to explain (108). In (108), since S1 lacks an objective that is followed up by the event in S2, there is difficulty in accepting this sentence without a specified context. There needs to be an element of expectation in S1 that something is going to happen in S2 that sets the stage for the use of *tokoro*. Jamashii (1998) emphasizes the discovery factor in S2 as the link between the two clauses.

In contrast, *~tara* does not involve an expectation condition in S1 and what happens in S2 could merely be a coincidence. And it is in this aspect that *~tara* is different from *tokoro* pragmatically. In *~tara*, since S2 represents a coincidence/surprise, there may not be a continuity between E1 and E2 thus accounting for the grammaticality of the following sentence:

- (109) Tosyokan-ni it-tara Tomu-ga ita.
 library-Loc went-TARA Tom-Nom existed
 ‘When I went to the library, Tom was there.’

Aoki (2000) has also stated the difference between *~tara* and *tokoro* usage in terms of pragmatic factors using the following examples:

- (110) Kanzume-o aketa tokoro naka kara kinka-ga dete kita. =(27)
 canned food-Acc opened TOKORO inside from gold coin-Nom came out
 ‘When I opened the canned food, a gold coin came out from inside it.’

According to Aoki (2000), the point that event in S2 is frequently unexpected or is a discovery resembles that of *~tara*:

- (111) Kanzume-o ake-tara naka kara kinka-ga dete kita.
 canned food-Acc opened-TARA inside from gold coin-Nom came out
 ‘When I opened the canned food, a gold coin came out from inside it.’

However, with the use of *~tara*, there is often an element of coincidence or chance happening:

- (112) Ie-ni tui-tara denwa-ga natta.
 house-Loc reached-TARA phone-Nom rang
 ‘The phone rang, when I reached home.’

This is opposed to *tokoro*’s usage, where it is important to take into account the subject’s motive to carry out the action in S1 while thinking about the entire utterance.

In contrast, S1 *toki* S2 sentences are neutral statements (without any surprise or suspense) about two successive events as in:

- (113) Ie-de nete iru toki Bill-ga tazunete kita.
 house-Loc sleeping TOKI Bill-Nom visit came
 ‘Bill visited me when I was sleeping at home.’

The two events can be completely independent as in:

- (114) John-ga Mary-o nagutta toki Miki-ga Tomu-o nagutta.
 John-Nom Mary-Acc hit TOKI Miki-Nom Tom-Acc hit
 ‘Miki hit Tom when John hit Mary.’

Toki sentences do not have any strict restrictions about motivation or intention or lack of it, they work either way. However, there is a difference in *~tara* and *toki* usage on the basis of predicate types, as pointed out by Netsu (1984).

- (115) Otona-ni nat-tara/*natta toki syooboosi-ni nari-tai. (=6)
 adult-Dat become-TARA fireman-Dat become-want
 ‘When I grow up, I want to become a fireman.’

‘When I went to my friend’s house, Hanako had also come right at that time.’

- (120) Rooka-o zutto itta tokoro-ni/*toki-ni sooko-ga aru. (=5)
corridor-Acc all through go TOKORO-Loc warehouse-Nom exist
‘There is a warehouse when you go all the way through the corridor.’

There are two concepts working here: temporal (119) and spatial (120). *Tokoro* can be used for expressing both time and space as in (119, 120), while *toki* functions only to denote time as in (119).

4.0. Conclusion

This paper is an attempt to delineate the similarities and differences among seemingly similar temporal connectives, namely, *~tara*, *tokoro* and *toki*. For past events, while *tokoro* constructions have restrictions on the usage of non-volitional actions/states in S1, *~tara* and *toki* are not restricted in that aspect. In case of volitionality in S2, same subject control as well as speaker control is not allowed for both *~tara* and *tokoro*. Relatively speaking, of the three, *toki* seems to be the least restricted and can be used almost in all the situations where *~tara* and/or *tokoro* yield ungrammatical sentences. However there is restriction on the usage of *toki* based on the inherent aspect of subordinate as well as main clauses.

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Japanese Temporal Connectives: *~tara, tokoro, toki* -A Pragmatic Analysis-

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ABSTRACT

This paper is an attempt to delineate the temporal properties of three seemingly similar connectives in Japanese, namely, *~tara, tokoro* and *toki* (all roughly equivalent to 'when'). The method employed to carry out the analysis is a comparative method based on the following seven criteria shared by these connectives:

1. Temporality versus Conditionality
2. Particles Following
3. Tense/Aspect sequences in S1 (subordinate clause) and S2 (main clause)
4. Subjects in S1 and S2
5. Volitionality versus Non-Volitionality
6. Time gap between E1 (subordinate clause event) and E2 (main clause event)
7. Continuity between E1 and E2 - Pragmatic factors

By way of this comparative analysis, it has been possible not only to spell out the common properties shared by these three connectives but it has also become evident that they cannot always be used interchangeably.

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