Tense and aspect in Japanese: *tokoro-da* as a reference point marker

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1. Introduction

• Tense/aspect forms in Japanese:
  Vstem-\textit{ta}: past or perfect
  Vstem-\textit{ru}: present or future
  Vstem-\textit{tei-\{\textit{ru}/\textit{ta}\}}: progressive or perfect
    \textit{te}+ \textit{i} (continuative+ exist)

• The interpretive possibilities become restricted if we add \textit{tokoro-da} to these forms.

  Vstem-\textit{ta-tokoro da}: immediate past
  Vstem-\textit{ru-tokoro da}: immediate future
  V-\textit{tei-\{\textit{ru}/\textit{ta}\}}-tokoro da: progressive
Question and claims

• **Question:**
  How does *tokoro-da*, a formal noun meaning place or location plus the copula has the properties of restricting the interpretations of tense/aspect forms. (*da* (present), *datta* (past))

• **Claims:**
  A. *Tokoro* denotes a reference point, at which the property represented in the complement clause holds.
  B. *Tokoro-da* serves to change a complement clause into a stative predicate with the concomitant tense property, i.e. the property denoted by the predicate holds at the reference time.

  (C.B can be derived from the lexical properties of *tokoro* that are basically the same as it appears as a formal noun meaning ‘location’, i.e. it signifies a reference point)

• **Assumption:**
  - two layered tense system
    - relative tense: temporal relation between r and e
    - tense: temporal relation between r and ut
    - different characterization of tense for nonstatives and statives
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6. Summary
Ru form /ru/-/u/

(1) non-stative* ru: future
   a. Watasi-wa Chomsky-no hon-o yom-u
      I-TOP Chomsky-GEN book-ACC read-RU
      I will read a book on Chomsky.
   b. Watasi-wa ima-kara Chomsky-no hon-o yom-u
      (Immediate)
      I-TOP now from Chomsky-GEN book-ACC read-RU
      I will read a book on Chomsky from now.
   c. Watasi-wa zyuunengo-ni Chomsky-no hon-o yom-u
      (remote)
      I-TOP ten-years- in Chomsky-GEN book-ACC read-RU
      I will read a book on Chomsky ten years from now.
(2) **Stative+ru: non-past**

a. Watasi-wa *ima* eigo-ga yome-*ru*. (Present state)
   
   I-TOP yesterday English-NOM read-POT-RU
   
   I can read English now.

b. Watasi-wa *mukasi-kara* eigo-ga yome-*ru*. (State up to now)
   
   I-TOP a long time since English-NOM read-POT-RU
   
   I have been able to read English since a long time ago.

c. *Watasi-wa *kinoo* eigo-ga yome-*ru*. (Present state)
   
   I-TOP yesterday English-NOM read-POT-RU
   
   *I can read English yesterday.

d. Watasi-wa 3 nengo-ni eigo-ga yom-e-*ru*. (Future)
   
   I-TOP three years later English-NOM read-POT-RU
   
   I will be able to read English three years from now.
**Ta form  */ta~/da*/  Past**

(3) Non-statives: immediate or remote past  

a.  Watasi-wa Chomsky-no hon-o yon-da.  
   I-TOP Chomsky-GEN book-ACC read-TA  
   I read a book on Chomsky.

b.  Watasi-wa ima Chomsky-no hon-o yon-da. (Immediate)  
   I-TOP now Chomsky-GEN book-ACC read-TA  
   I have just read a book on Chomsky.

c.  Watasi-wa zyuunenmae-ni Chomsky-no hon-o yon-da. (Remote)  
   I-TOP ten years ago Chomsky-GEN book-ACC read-TA  
   I read a book on Chomsky ten years ago.
(4) **Stative+ta**: state at a reference time in the past

a. Watasi-wa ima eigo-ga yome-ta.
   I-TOP yesterday English-NOM read-POT-TA
   I was able to read English just now.

b. Watasi-wa mukasi-kara eigo-ga yome-ta.
   I-TOP a long time since English-NOM read-POT-TA
   I have been able to read English since a long time ago.

c. Watasi-wa kinoo eigo-ga yome-ta.
   I-TOP yesterday English-NOM read-POT-TA
   I was able to read English yesterday.

d. Watasi-wa 3 nenmae-ni eigo-ga yom-e-ta.
   I-TOP three years before English-NOM read-POT-TA
   I was be be able to read English three years ago.
Semantics of \textit{ru} and \textit{ta}

(7) Tense/Aspectual interpretatio for non-statatives

- \textit{ru}-form: $\lambda P. \lambda e. \lambda r. \left[ P(e) \& r \leq \tau(e) \right]$ The start time of the denotation of the verb phrase, i.e. $s(e)$ is in contact with (abutting) or later than the reference time.
  
  \quad $r$ in contact with or before $e$: \hspace{1cm} r \hspace{1cm} r[\hspace{0.5cm} s \hspace{0.5cm} f]$

- \textit{ta}-form: $\lambda P. \lambda e. \lambda r. \left[ P(e) \& \tau(e) \leq r \right]$ The ending time of the denotation of the verb, i.e. the $f(e)$, is in contact with (abutting) or prior to the reference time.
  
  \quad $r$ in contact with or after $e$: \hspace{1cm} [s \hspace{0.5cm} f]r \hspace{1cm} r$

$\Rightarrow$ aspect+relative tense
Semantics of *ru* and *ta*

(7) Tense interpretation for statives

The reference time $r$ is included in the run time of the denotation of the verb phrase, i.e. $\tau(e)$, and $ut \leq r$ for *ru* and $r \leq ut$ for *ta*.

- **ru-form:** $\lambda P \lambda e \lambda r \ [P(e) \& r \subseteq \tau(e) \& ut \leq r]$

  $r$ within $e$ : $\Rightarrow e$----

  $r = ut$

  $ut < r$

- **ta-form:** $\lambda P \lambda e \lambda r \ [P(e) \& r \subseteq \tau(e) \& r < ut]$

  $r$ within $e$ : $\Rightarrow e$----

  $r < ut$

$\Rightarrow$relative tense
Progressive/perfect form /te iru/~/de iru/

Activity verbs: progressive, perfect

(3) a. Watasi-wa Chomsky-no hon-o yon-dei-ru.
I-TOP Chomsky-GEN book-ACC read-TEI-RU
I {am reading, have been reading, have read, read} a book on Chomsky.

b. Watasi-wa ima Chomsky-no hon-o yon-dei-ru. (progressive)
I-TOP now Chomsky-GEN book-ACC read-TEI-RU
I am reading a book on Chomsky now.

c. Watasi-wa 1 zikan mae-kara Chomsky-no hon-o yon-dei-ru. (perf prog)
I-TOP 1 hour-before-since Chomsky-GEN book-ACC read-TEI-RU
I have been reading a book on Chomsky for an hour..

d. Watasi-wa mae-ni Chomsky-no hon-o yon-de-iru. (perfect)
I-TOP before-in Chomsky-GEN book-ACC read-TEI-RU
I have read a book on Chomsky before.

e. Watasi-wa 10 nen mae-ni Chomsky-no hon-o yon-de-iru. (perfect)
I-TOP 10 years-before-in Chomsky-GEN book-ACC read-TEI-RU
I read a book on Chomsky ten years ago.
(4) Change of state verbs: resultative state, perfect

a. Watasi-wa kekkonsi-tei-ru.
   I-TOP get-married-TEI-RU
   I {have been married, got married}

b. Watasi-wa 10 nen-mae-kara kekkonsi-tei-ru.
   I-TOP 10 years-before-since get-married-TEI-RU
   I have been married for ten years. (State)

c. Watasi-wa 10 nen mae-ni itido kekkonsi-tei-ru.
   I-TOP 10 year before-in once get-married-TEI-RU
   I got married once ten years ago (but got separated).
   (Perfect with a past adverbial)
Progressive/perfect form /te iru/~/de iru/

(5) Change of state verbs 2 (with an agent)+te i.ru: Progressive, resultative state, perfect

a. Watasi-wa akai zyaketto-o *ki-tei-ru*.  
   I-TOP red jacket-ACC wear-TEI-RU  
   I {am wearing/wear/have worn/wore} a red jacket.
b. Watasi-wa *yukkuri* akai zyaketto-o *ki-tei-ru*. (Prog)  
   I-TOP slowly red jacket-ACC wear-TEI-RU  
   I am (in the process of) putting a red jacket on  
c. Watasi-wa *sakki-kara* akai zyaketto-o *ki-tei-ru*. (State)  
   I-TOP a moment-since red jacket-ACC wear-TEI-RU  
   I have been on red jacket since a moment ago.
d. Watasi-wa *kinoo* akai zyaketto-o *ki-tei-ru*. (Perfect)  
   I-TOP yesterday red jacket-ACC wear-TEI-RU  
   I put on a red jacket yesterday.
Semantics of \textit{tei}

(7) Aspectual interpretation of \textit{tei}

- \textit{tei}-form: $\lambda P \lambda e \lambda r. [P(e) \& s(e) < r]$ The start time of the denotation of the verb, i.e. $s(e)$, is prior to the reference time.

- $[s \quad r \quad f] \quad r$
Semantics of tei 2

(7) Tense/Aspectual forms for non-statives

tei-form: $\lambda P \lambda e \lambda r. [P(e) & s(e)<r]$ The start time of the denotation of the verb, i.e. the $s(e)$ is prior to the reference time.

Three choice points

i) $[s \quad r \quad f]$ progressive

ii) $[s \quad f] \quad r \quad rst$ resultant state

iii) $[s \quad f] \quad rst \quad r$ perfective
Semantics of tei 2

(7) Three choice points (Igarashi & Gunji (1998))

i) \[[s \quad r \quad f]\] progressive \(s(e)<r<f(e)\)

ii) \[[s \quad f] \quad r \quad rst\] resultant state \(f(e)<r<rst(e)\)

iii) \[[s \quad f] \quad (rst) \quad r\] perfective \(rst(e)<r\)

(i) is not possible for those verbs where \(s=f\).

(ii) and (iii) are distinct only for those verbs where \(rst\) (reset time) is well-defined.

ki-tei-ru (wear+\textit{teiru}): (i-iii)

yon-dei-ru (read+\textit{teiru}): ((ii) and (iii) non-distinct)
Semantics of *tei* 3

tei as a stative

i) \[ s \quad r \quad f \] progressive \( r \subseteq \tau (e) \)

ii) \[ s \quad f \] \( r \) rst resultant state
   \( r \subseteq \{ t : f(e) < t < \text{rst}(e) \} \)

iii) \[ s \quad f \] (rst) \( r \) perfective
   \( r \subseteq \{ t : \text{rst}(e) < t \} \)

*te* choose one of \( s(e), f(e) \) and \( \text{rst}(e) \) as the left edge and *i* locates \( r \) relative to the it.
(cf. Igarashi & Gunji (1998))
Domain of r for te -i

- s f rt
- domain of r between s and f
- between f and rt
- after rt
tei for referring to remote ‘past’

(13) 3-gatu 11 niti-ni kono hon-o yon-dei-ru.
    3-month 11-day-on this book-ACC read-TEI-RU

I read this book on March 11th. \( f(e)=3, 11<r \leq \text{now} \) (perfect)
I will be reading this book on March 11\(^{th}\). \( \text{now}<s(e)<r<f(e) \) (prog)
I will have read this book on March 11\(^{th}\)= On March 11\(^{th}\), I will have (already) read this book . \( \{\text{now}<f(e)<r \) (future perfect)

\[ s \text{ read} \]
\[ s(e)<r \text{ & } \text{now} \leq r \]
ta for immediate past

(9) \( f(e) \leq r \) \( f(e) = r \) is possible for ta

a. Watasi-wa ima yon-da.
   I-TOP now read-PAST
   I have just finished reading.

b. Watasi-wa ima kekkonsi-ta.
   I-TOP now-married-PAST
   I have just gotten married.
Tense interpretation of tei+ru/ta

- **Tense**: same as statives

  **ru** Non-past:

  \[\lambda Z. \lambda r \ [Z(r) \text{ and } ut \leq r]\]

  Z stands for stative predicate phrase including derived statives formed by -te i

  **ta** \[\lambda Z \lambda r \ [Z(r) \text{ and } r < ut]\]
No immediate past interpretation for *te i-ru*

(8) No ‘have just’ meaning for *teiru:*

a. Watasi-wa **ima** hon-o yon-*dei-ru: s(e)<ut<f(e), *f(e)=ut*  
   I-TOP now book-ACC read-TEI-ru  
   I am reading a book.  
   *I have just read a book.*

b. Watasi-wa **ima** kekkonsi-*tei-ru: f(e)<ut<rst *f(e)=ut*  
   I-TO now married-TEI-ru  
   I am married.  
   *I have just gotten married.*
Tense and aspect of tei-ru

- watasi-wa kono hon-o yon-dei-ru.
  I-TOP this book-ACC read-TEI-RU
  tei-ru: \( s(e) < r \) (aspect) + \( ut \leq r \) (relative tense)

I am reading this book. \( s(e) < r = \text{now} < f(e) \) (present prog)
I read this book. \( f(e) < r = \text{now} \) (present perfect)
I will be reading this book. \( \text{now} < s(e) < r < f(e) \) (future prog)
I will have read this book. \( \text{now} < f(e) < r \) (future perfect)
Tense and aspect of *tei-ta*

tei-ta: s(e)<r (aspect)+ r<ut (relative tense)

- watasi-wa kono hon-o yon-dei-ta.
  I-TOP  this book-ACC read-TEI-RU

I was reading this book.  s(e)<r<f(e)<now  (past prog)
I had read this book (by that time).  f(e)<r<now  (past perfect)
(11)a. (Anata-wa) onna-no hito-to
   (you) yesterday woman-GEN person-with
   non-dei-ru desyo.
   drink TEI-RU CONF

You are drinking with a woman, aren’t you?

You have drunk with a woman, haven’t you?

Flirting husband case

(11)

b. (Anata-wa) onna-no hito-to non-dei-ta desyo.
   (you) woman-GEN person-with drink TEI-TA-CONF
   You were drinking with a women, weren’t you.
   You must have drunk with a woman.

s(e)<r<f(e)<now (past progressive reading)
f(e)<r<now (evidential reading)
Korean

(12)
yesterday woman-with dring-KO-ISS-CONF-HON
You have been drinking with a woman yesterday, aren't you.

Only  s(e)<now<f(e) (present progressive reading) is possible

b.  ecey yeça-rang swulmasi-ko iss-ess-ci-yo?
yesterday woman-with dring-KO-ISS-PAST-CONF-HON
You were drinking with a woman (when I saw you )yesterday, weren't you.

s(e)<r<f(e)<now (past progressive reading)
*f(e)<r<now (evidential reading)

In Korean, reference time must be co-temporal with the event time, which in default of an overt expression denoting the reference time (or the topic time), must be the time of the speaker's deictic time, i.e. the time/place in which the speaker is/was present.
3. tokoro-da

(14) a. Watasi-wa Chomsky-no hon-o yom-u *tokoro-da.*
I-TOP Chomsky-GEN book-ACC read-RU TOKORO-COP
I am going to read a book on Chomsky now.

b. Watasi-wa **ima-kara** Chomsky-no hon-o yomu *tokoro-da*
I-TOP now from Chomsky-GEN book-ACC read-RU TOKORO-COP
I am going to read a book on Chomsky from now.

c. *Watasi-wa** zyuunengo-ni** Chomsky-no hon-o yomu *tokoro-da*
I-TOP ten-years- in Chomsky-GEN book-ACC read-RU TOKORO-COP
I will read a book on Chomsky ten years from now.

**Only immediate future reading for V-ru tokoro-da**
(15)
a. Watasi-wa Chomsky-no hon-o yon-da tokoro-da.
   I-TOP Chomsky-GEN book-ACC read-TA TOKORO-COP
   I read a book on Chomsky.

b. Watasi-wa ima Chomsky-no hon-o yon-da tokoro-da.
   I-TOP now Chomsky-GEN book-ACC read-TA TOKORO-COP
   I have just read a book on Chomsky

c. *Watasi-wa zyuunenmae-ni Chomsky-no hon-o yon-da tokoro-da
   I-TOP ten years-in Chomsky-GEN book-ACC read-TA TOKORO-COP
   I read a book on Chomsky ten years ago.

Only immediate past reading for V-ta+tokoro-da
te i-ru/ta+ tokoroda

(16)

   I-TOP Chomsky-GEN book-ACC read-RU TOKORO-COP
   I am reading a book on Chomsky.

Only progressive interpretation is allowed. No present perfect, future perfect interpretation.
te i-ru+ tokoroda

(16)
   I-TOP  now Chomsky-GEN book-ACC read-TEI-RU TOKORO-COP
   I am reading a book on Chomsky now.
c. Watasi-wa 1 jikan mae-kara Chomsky-no hon-o yon-dei-ru tokoro-da.
   I-TOP  1 hour-before-since  Chomsky-GEN book-ACC read-TEI-RU
   I have been reading a book on Chomsky for an hour.

d. *Watasi-wa mae-ni Chomsky-no hon-o yon-de-iru tokoro-da.
   I-TOP  before-in  Chomsky-GEN book-ACC read-RU TOKORO-COP
   I have read book on Chomsky before.
   I-TOP  10 years-before-in  Chomsky-GEN book-ACC read-TEI-RU TOKORO-COP
   I read a book on Chomsky ten years ago.

Cf. counterfactual interpretation of d, e is possible.
Change of state verbs + tokoro-da

Progressive interpretation is coerced

(17)

a. Watasi-wa kekkonsi-**tei-ru tokoro-da**.
   I-TOP  get-married-TEI-RU TOKORO-COP
   I am in the process of getting married.

b. *Watasi-wa 10 nen-mae-kara kekkonsi-**tei-ru tokoro-da**.
   I-TOP  10 years-before-since get-married-TEI-RU TOKORO-COP
   I have been married for ten years.

c. *Watasi-wa 10 nen mae-ni itido kekkonsi-**tei-ru tokoro-da**.
   I-TOP  10 year before-in once get-married-TEI-RU TOKORO-COP
   I got married ten years ago (and got separated).

• Counterfactual interpretation of b, c is possible.
Change of state verbs verbs (with agent) +teiru tokoro-da:
Only progressive interpretation is allowed

(18)
 a. Watasi-wa akai zyaketto-o ki-**tei-ru tokoro-da**.
    I-TOP red jacket-ACC wear-TEI-RU TOKORO-COP
    I am wearing a red jacket.
 b. Watasi-wa **sakki-kara** akai zyaketto-o ki-**tei-ru tokoro-da**.
    I-TOP a moment-since red jacket-ACC wear-TEI-RU TOKORO-COP
    I have been trying to wear red jacket since a moment ago.
 c.*Watasi-wa **kinoo** akai zyaketto-o ki-**tei-ru tokoro-da**.
    I-TOP yesterday red clothes-ACC wear-TEI-RU TOKORO-COP
    I wore a red jacket yesterday.

• Counterfactual interpretation of c is possible.
Stative verbs+tokoro-da:
*Tokoro-da cannot be attached to stative verbs

*Watasi-ni wa eigo-ga dekiru tokoro-da.
I-Dat TOP English-NOM can-TOKORO-COP
'I can read English.'

- **Stative+tokoro-da** must be interpreted as counterfactual, rather than aspectual.

Watasi-ga America-de umareteitara, eigo-ga hanaseru tokoroda.
I-NOM America-LOC was-born-if English-NOM can-speak TOKORO-COP
If I were born in America, I would be able speak English now.
(19) **ru-tokoro-da** form: \( \lambda r. \lambda e. [r=s(e)] \) The start time of the denotation of the verb phrase, i.e. the \( s(e) \), is in contact with the reference time. If \( r = ut \), it will denote the immediate future time.

(20) **ta-tokoro-da** form: \( \lambda r. \lambda e. [f(e)=r] \) The ending time of the denotation of the verb, i.e. the \( f(e) \), is in contact with the reference time. If \( r=ut \), it will denote the immediate past.

(21) **tei-ru/ta tokoroda** form: \( \lambda r. \lambda e. [s(e)< r <f(e)] \) It only allows a progressive interpretation. **Tei-ru tokoroda** is a present progressive, i.e., the subject is in the process of the activity expressed by the verb in the complement. **Tei-ta tokoroda** is a perfect progressive, i.e. the subject has been in the process of an activity until a moment ago.
(26) $V_{\text{non-stative-ru-form}}$: *ru* is like *before* including *s(e)*

\[ \text{ru} \text{ at or before s(e): } r \subseteq \{ t : t \leq e \} \]

$V_{\text{non-stative-ta-form}}$: *ta* is like *after* including *f(e)*

\[ \text{ta} \text{ at or after f(e): } r \subseteq \{ t : e \leq t \} \]

$V_{\text{non-stative-tei-form}}$: *tei* is *after* *s(e)* not including *s(e)*.

\[ \text{tei} \text{ after s(e): } r \subseteq \{ t : s(e) < t \} \]

(i) \[ r \subseteq \{ t : s(e) < t < f(e) \} \]

(ii) \[ r \subseteq \{ t : f(e) < t < \text{rst}(e) \} \]

(iii) \[ r \subseteq \{ t : \text{rst}(e) < t \} \]
Tokoro-da as a stativization predicate

- The restriction imposed by tokoro-da is the same as that in the interpretation of stative predicates.
- The eventuality expressed by a stative predicate is asserted to be true at the reference time;

Predicate is true at \( r: \)  \( r \) within \( \tau(e) \)

*Tokoro-da* can thus be interpreted as denoting that the event expressed by the verb phrase in the complement is true at the reference time:

- **tokoro-da**: \( \lambda Z. \lambda e. \lambda r. [Z(e)(r) \land r \subseteq \tau(e)] \)
The intersection of the interval of tokoroda and those of the tense/aspectual forms

ru-tokoroda  <--------------------- [s  e  f]
  r at or before s(e) and r within e => r in contact with s(e):
    *immediate or imminent future*

ta-tokoroda: [s  e  f]----------------------Æ
  r at or after f(e) and r within e => r in contact with f(e):
    *immediate past*

tei-ru tokoroda:  [s -- e----- f]-------------Æ
  r after s(e) and r within e => r is within e, excluding s(e) and f(e) => *progressive reading*

⇒ if tei-ru has reset time defined then it can have a reading:
⇒ r within (e + result of e )
*Tokoro-da* has the function of restricting the location of the reference time within the interval of the verb.

With the addition of *tokoroda* the flirting husband example must be interpreted as the case of the wife catching her husband in the act of cheating red-handed, thereby disallowing the evidential reading.

(22) *onna-no hito-to non-de* i-ta tokoro-datta desyo.

When I saw you, you were drinking with a woman, weren't you.

*Tokoro-da* must represent an event in the deictic space, i.e. in that part of reality which is visible to, or can be directly experienced by the speaker.
For accomplishment verbs and achievement verbs which have a reset time, i.e. the time when the resultative state brought about by the process is reset to the original state,

(i) John-wa yoroi-o *ki-tei-ru* tokoroda.
John-TOP armor-ACC wear TOKORO-COP (Prog) John is in the process of wearing an armor.
(Result) John has an armor on.
Relational noun for space:

*higasi* (east), *nisi* (west), *minami* (south), *kita* (north); *migi* (right), *hidari* (left), *ue* (up),
*sita* (down)

(23) Kyoto-no *higasi*

Kyoto-GEN east
east of Kyoto

(24) Tanaka-no *mae*

Tanaka-GEN before
In front of Tanaka
Relational nouns

no higasi: x is in the east of y
no mae;: x is in front of y

(23') Kyoto no higasi: x is in the east of Kyoto

(24') Tanaka no mae: x is in front of Tanaka

Kyoto and Tanaka represent the point of reference for the spatial relation, in the east of and in front of respectively.
[Kyoto] → E  x
reference point
Spatial relation

□ ○

• ○ as the reference
  □-wa ○-no *hidari*-ni aru.
  TOP GEN left-LOC be
  ‘□ is to the left of ○.’

• □ as the reference
  ○-wa □-no *migi*-ni aru
  TOP GEN right-LOC be
  ‘□ is to the right of ○.’
△ ▲ ▽ □ ■ ● ○→>
○→>

• □-wa ■-no hidari-ni aru.
  TOP GEN left-LOC be
  ‘□ is to the left of ■.’

• tokoro as the reference point marker
  ○-wa □-no tokoro-ni aru
  TOP GEN right-LOC be
  ‘O is at □.’
Relational noun for time:

go-home>have-dinner>brush-teeth>go-to-bed.

(25) Neru mae-ni ha-o migaku.
    go-to-sleep before teeth-ACC brush
    (I) brush teeth before going to bed.
    neru(e)<go-to-bed(e)

ha-o migai-ta ato-de neru
    teeth acc brush after-LOC sleep
    (I) go to bed after brushing my teeth.

mae-ni (x,y) : x is before y
neru mae-ni ha-o migaku ha-o migaku'(e)<neru'(e)

ato-de (x,y): x is afer y
ha-o migai-ta ato-de neru ha o migaku'(e)<neru'(e)

Neru' is the point of reference for the temporal relation before.
Tokoro as a marker for the point of reference.

*Tokoro* is can be considered as a special kind of relational noun representing a reference point: \( R(x,y) \) \((x \text{ is at } y) & y \text{ is the reference point}\)

**Spatial relation:**
- *no higasi* \((x,y)\): \(x\) is on/to the east of \(y\)
- *no mae* \((x, y)\): \(x\) is in front of \(y\)
- *no tokoro* \((x,y)\): \(x\) is at \(y\).

**Temporal relation**
- *mae-ni* \((x,y)\): \(x\) takes place before \(y\)
- *ato-de* \((x.y)\): \(x\) takes place after \(y\)
- *tokoro-de* \((x.y)\): \(x\) takes place at \(y\)
Tense/aspect relation

- Tense/ aspect expressions denote two-place relations, between the interval denoted by a VP and the reference time.

- VP-tense/aspect-tokoro-COP:
  [VP-tense/aspect] as the reference point r is the interval to be located.

- r at ||VP-tense/aspect||.
Event as a reference point

ru-form:  <--------r------- [s e f]
   in contact with or before (r, e)

ta-form:  [s e f]----r------------------
   in contact with or after (r,e)

tei-form:  [s -- e--r--- f]-- -r--------
   within (r, e)
   after (r, e)

$P(e)$ is the reference point in each tense/ aspect expression

**tokoro** picks out $P(e)$ (or $Z(e)$) as the reference point and locate $r$ at $P(e)$.

**tokoro** $(r, P(e)) : r$ at $P(e)$
Event as a reference point

tokoro picks out e as the reference point:
  r at P(e).

ru-form:  <---------r-------- [s e f]
  in contact with or before (r, e) and r at P(e): r in contact
   with s(e)
ta-form:  [s e f]-----r------------------
  in contact with or after (r,e) and r at P(e): r in contact with
   f(e)
tei-form: [s -- e--r--- f]-- -r---------
  [within (r, e) or after (r, e)] and r at P(e): r within e
Some ramifications of the our approach

- ima-no tokoro (as of present)
- hontoo-no tokoro (to tell the truth)
- kinoo-made-no tokoro (up until yesterday)
- Syooziki-no tokoro (to be honest)

*tokoro* specifies the time/world slice at which the evaluation is made.
Summary

A. *Tokoro* denotes a reference point, at which the property represented in the complement clause holds.

B. *Tokoro-da* takes the intersection of tokoro-da and the denotation of VP-ru, ta-tei(ru), serves to change a complement clause into a stative predicate with the concomitant tense property, i.e. the property denoted by the predicate holds at the reference time.

C. B can be derived from the lexical properties of *tokoro* that are basically the same as it appears as a formal noun meaning ‘location’
tokoro as a point of change

tokorode (tokoro+ loc) as topic change marker

- *Tokorode*, ano ken-wa doo nari-masi-ta.
  By the way that case-TOP how become-HON-Past
  By the way, what has become of that case.

- **tokorode as the moment of change**
  Tanaka-ga aisatusi-ta tokoro-de party-ga owat-ta.
  Tanaka-NOM greet-Past-rel tokoro-de, party-NOM end-Past
  The party ended when Tanaka make the ending speech.

- **tokorode as the point of change in logic**
  Tanaka-ga ki-ta- tokorode party-wa seikoo-sinai.
  Tanaka-NOM come-Past-rel tokoro-de, party-NOM end-Past
  The party will not succeed even if Tanaka came.
tokoro-da in counterfactuals

• (It is fortunate that Tanaka didn’t come)
  Tanaka-ga kiteitara, party-wa

    Tanaka-NOM come-tei-if Party-TOP

mutyakutya-ni-natteita tokoro-da.
  ruined TOKORO-COP

If Tanaka had come, the party would not have ruined.