

Revisiting pronominal vs. existential past tense denotations in English and Japanese*
Yurika Aonuki (University of British Columbia, yurika.aonuki@ubc.ca)

1. Introduction

- The English past tense has been argued to be pronominal (1) (Partee 1973; Heim 2015), existential (2) (Ogihara 1996; Kusumoto 1999; von Stechow 2009), or ambiguous between the two (Musan 1997; Kratzer 1998; Grønn and von Stechow 2016).

(1) Examples of pronominal past

- a. $[[\text{Past}_i]]^{g,c} = g(i)$ Defined iff $g(i) < t_c$
- b. $[[\text{Past}_i]]^c_{<i,t>} = \lambda t: t < t_c. t$

(2) Examples of an existential past

- a. $[[\text{Past}]]^c_{<t,t>} = \lambda P_{<i,t>}. \exists t[t < t_c \ \& \ P(t)]$
- b. $[[\text{Past}]]^c_{<t,t>} = \lambda P_{<i,t>}. \lambda t. t < t_c \ \& \ P(t)$

- The Japanese past tense has been often analyzed as an existential tense (Ogihara 1996; Kusumoto 1999; Sharvit 2014).
- This paper argues that both the English and Japanese past tenses are pronominal.
 - Reassessing the diagnostics of pronominal vs. existential tenses and applying them to Japanese
 - Incorporating insights from existential past tenses in Japanese and Atayal (Chen et al. 2020).
 - New evidence for the pronominal approach comes from presuppositional status of tense meanings (Cable 2013 on Gikūyū temporal remoteness markers; Ogihara and Kusumoto 2021).

2. Deictic, anaphoric, bound uses (Partee 1973)

- Partee (1973) recognized that similarly to personal pronouns (3a), temporal interpretations contributed by tense can be deictic (3b).

(3) a. *Context: Possibly accompanied by a pointing gesture.*

He shouldn't be here.

(Partee 1973: 602(2))

b. *Context: Driving on a highway, you suddenly realize and say:*

I didn't turn off the stove.

(Partee 1973: 602(3))

- Partee (1973) further argued that an existential approach to the past tense wrongly predicts a scope interaction between the existential tense and negation (4).

(4) a. \neq past > negation (surface scope)

$\exists t[t < s^* \ \& \ \neg I\text{-turn-off-stove at } t]$

'There was a time that I didn't spend turning off the stove.' (too weak)

b. \neq negation > past (inverse scope)

$\neg \exists t[t < s^* \ \& \ I\text{-turn-off-stove at } t]$

'I never turned off the stove.' (too strong)

- The deictic reading retains even if the surface order of the past and negation is reversed (5).

(5) It's not (the case) that I turned off the stove.

\neq negation > past

$\neg \exists t[t < s^* \ \& \ I\text{-turn-off-stove at } t]$

'I never turned off the stove.'

* Thanks to the Tense and Aspect in the Pacific (TAP) lab at UBC for feedback and comments.

- The Japanese past is also compatible with deictic uses (6), and reversing the surface order of the past and negation doesn't change the deictic reading (7).

(6) *Context: Driving on a highway, you suddenly realize and say:*

Kagi shime-naka-tta
 key lock-NEG-PST
 'I didn't lock the door!'

(adapted from Partee 1973: 602(3))

(7) negation < past

Kagi-o shime-ta wake-de-wa na-i
 key-ACC lock-PST wake-COP-TOP NEG-NONPST
 'It's not that I locked the door. (I did something else).'

- An existential tense with a contextual restriction (8) is argued to account for the deictic use (Ogihara 1996; Kusumoto 1999; von Stechow 2009), but there are two problems.

(8) $[[\text{Past}]^c = \lambda t_R. \lambda P_{\langle i, t \rangle}. \exists t' [t' < t_c \ \& \ t' \subseteq t_R \ \& \ P(t')]]$

(adapted from Heim 2015: 1(4))

- Problem 1: Chen et al. (2020) show that the contextually restricted existential past tenses *tau* in Javanese and *-in-* in Atayal exhibit the exact scope interaction that Partee (1973) predicted an existential tense to have (9, 10).

(9) *Context: As a Paciran villager, Wanan typically eats rice at every meal, three times a day. But maybe once or twice in his life there was a time when he didn't eat rice.*

Pak Wanan tau gak mangan sego.
 Mr. Wanan E.PST NEG AV.eat rice
 'Pak Wanan has sometimes not eaten rice.'

(Javanese; Chen et al. 2020: (32))

(10) Wong londo gak tau mangan sego.
 person western NEG E.PST AV.eat rice
 'Foreigners have never eaten rice.'

(Javanese; Chen et al. 2020: (30))

- The Javanese *tau* has a salient experiential reading, which is not surprising given the similarity between the denotations of a contextually restricted past tense (8) and perfect (11).

(11) $[[\text{PERFECT}] = \lambda P_{\langle i, t \rangle}. \lambda t. \exists t' [\text{PTS}(t', t) \ \& \ P(t')]]$

(Pancheva 2003: 284(9b))

- If the English past is also a contextually restricted existential tense, why no scope ambiguity or experiential reading?

- Problem 2: Tense interpretations can also be anaphoric (12b) and bound (13b), similarly to personal pronouns (12a, 13a) (Partee 1973). These readings seem to require a temporal pronoun corresponding to the reference time (RT).

(12)a. Sam took the car yesterday and Sheila took **it** today. (Partee 1973: 605(9))

b. Sheila had a party last Friday and Sam danced**d**. (adapted from Partee 1983: 605(10))

(13)a. Every student spoke to the student in front of **them**.

b. When you eat fast food, you're always hungry an hour later. (adapted from Partee 1973: 606(20))

- The Japanese past also exhibits anaphoric (14) and bound (15) readings.

(14) Hanako-ga senshū tomodachi-to paati-o shi-ta. Taro-ga odo-tta.
Hanako-NOM last.week friends-with party-ACC do-PST Taro-NOM dance-PST
'Hanako had a party with her friends last week. Taro danced.'
(adapted from Partee 1973: 605(10))

(15) Chiisai-toki fasuto fuudo-o tabe-ru-to itsumo ichi-jikan-go-ni
small-when fast food-ACC eat-NONPST-then always one-hour-after-DAT
onaka-ga sui-tei-ta
stomach-NOM empty-tei-PST
'When I was small, when I ate fast food I was always hungry an hour later.'
(adapted from Partee 1973: 606(20))

3. Out-of-the-blue felicity?

- Several authors point out that the English and Japanese past tenses are felicitous in contexts that appear to provide no salient past interval except for the whole time before the UT and argue for an existential account of such cases (Partee 1984, Kratzer 1998, Ogihara 1996; Ogihara and Kusumoto 2021).
- Ogihara (1996): The past tense in (16) “receive[s] a simple existential quantifier meaning,” as it can be paraphrased with “John is a Harvard graduate” and “it does not matter exactly when he received his degree” (21).

(16) John graduated from Harvard and, therefore, belongs to its alumni. (Ogihara 1996: 21(2))

- Ogihara (1996) on Japanese: In (17), the time at which Suzuki became an important figure is irrelevant for the speaker’s assertion that they are such a figure now.

(17) Suzuki-san-wa earaku nat-ta-nee. Ima-wa shacho-san-da-tte.
Suzuki-HON-TOP important become-PST-part now-TOP president-HON-COP-PART
'Mr./Ms. Suzuki became an important figure. They are now the president of a company.'
(adapted from Ogihara 1996: 21(3))

- However, on a closer look, most of the seemingly existential cases have a salient past interval more specific than the whole time preceding the UT.
- Musan (1997) argues that in the absence of a better candidate, a DP can provide the lifetime of the individual denoted as a contextual restriction of the existential past. Since the contextual restriction of an existential tense corresponds to the RT of a pronominal tense (at least in some formulations, e.g., Heim 2015), any interval that serves as a contextual restriction in the former should be available as the RT in the latter.
- The RT of the past tense in above examples:
 - (16): A past interval at which John was at a typical age of a recent university graduate.
 - (17): Time since Suzuki started working full-time (The predicate *eraku na-tta* is usually associated with one’s promotion in a professional environment.)

4. Presuppositional status of tense meanings

4.1 Projection of the anteriority reading (Ogihara and Kusumoto 2021)

- Ogihara and Kusumoto (2021) demonstrate that the anteriority meaning of the past tense is a presupposition, similarly to gender presuppositions associated with personal pronouns.
- When the gender presupposition in the question is wrong (18a), that cannot be corrected by simply uttering a negative answer (18b) and must be instead explicitly challenged (18c). The anomaly of (18b) would be unexpected if the gender typically associated with the pronoun *he* was an entailment and could be negated.

(18) Context: *The new employee is female. John knows that, but Bill thinks that the new employee is male. John thinks that that new employee is coming today.*

Bill: a. I would like to meet our new employee. Is he coming today?

John: b. #No, I don't think **he** is coming today.

c. Actually, the new employee is female. But, yes, she is coming today.

(Ogihara and Kusumoto 2021: 9(16, 17))

- Ogihara and Kusumoto (2021) apply the same test to the anteriority requirement of the English past.
 - The anomaly of the exchange in (19) suggests that the anteriority of the past tenses used in (19a) is presupposed rather than entailed.

(19) Context: *Sue thinks that Karen planned to give Mary a surprise present last night. In fact, the plan was and is that Karen will give Mary a surprise present tomorrow.*

Sue: a. How was it? Was Mary pleased with your present?

Karen: b. #No, she **wasn't**.

- Analogous example in Japanese (20).

(20) Context: *Sue thinks that Karen planned to give Mary a surprise present last night. In fact, the plan was and is that Karen will give Mary a surprise present tomorrow.*

Sue: a. Dou-da-tta? Marii-wa purezento yorokon-de-ta?
how-COP-PST Mary-TOP present happy.with-tei-PST
'How way it? Was Mary pleased with your present?'

Karen: b. #Uun, Yorokon-de-naka-tta.
No happy.with-tei-NEG-PST
'No, she wasn't happy with it.'

4.2 Projection and Maximize Presupposition effect of the saliency reading

- Some authors argue that the Japanese past tense has a present perfect reading (Nakau 1976, Ogihara 1996). Nakau provides (21) as an example.

(21)

Q: a. Kimi-wa moo (sudeni) ano hon-o yon-**da**-ka?
you-TOP already (already) that book-ACC read-PST-Q
'Have you read that book yet?'

A: b. Un, (boku-wa moo (sudeni) ano hon-o) yon-**da**
Yes (I-TOP already (already) that book-ACC) read-PST
'Yes, I have (already read that book).'

- However, the distribution of the Japanese past is distinct from present perfect: it requires a contextually salient reference, and this requirement is a presupposition.
- The out-of-the-blue infelicity of a past-marked question (22) is unexpected if the contextual saliency was an entailment and could therefore be questioned.

(22) *Roujin to umi* (moo) yon-da?
The old man and the sea (already) read-PST
'Did you (already) read *The old man and the sea*?'

- a. Context: *Two students are in a literature course, and The old man and the sea is assigned for today. One says to the other:*
- b. Context: *Two people recently went to a bookstore together and each bought a copy of The old man and the sea. A week later, one says to the other:*
- c. Context: *(In an alternative world where) The old man and the sea was published recently.*
- d. #Context: *Out of the blue*
 - In out-of-the-blue contexts, (22d) is repaired with *-koto-ga a-ru* 'there exists a thing of... ' (23d), which has been described as an "experiential nominalization" (Martin 2004: 844).
 - In turn, *-koto-ga a-ru* is infelicitous in context with a salient past interval (4a-c), where the simple past is felicitous (23a-c).

(23) *Roujin to umi* yon-da koto a-ru?
The old man and the sea read-PST thing exist-NONPST
'Have you ever read *The old man and the sea*?'

- a. #Context: *Two students are in a literature course, and The old man and the sea is assigned for today. One says to the other:*
- b. #Context: *Two people recently went to a bookstore together and each bought a copy of The old man and the sea. A week later, one says to the other:*
- c. #Context: *(In an alternate world where) The old man and the sea was published recently.*
- d. Context: *Out of the blue*
 - I argue that the contrast between the past tense and the experiential construction as a Maximize Presupposition effect. The experiential sentence in (23) is technically compatible with the contexts (a-c), but it is the competition with the past-tensed counterpart (22) that leads to the infelicity.¹
 - Application of Maximize Presupposition to temporal semantics is inspired by Cable's (2003) analysis of temporal remoteness markers in Gikūyū: even though Near and Remote Past markers are technically compatible with a Current Past context (24), if the speaker knows that the context is compatible with the Current Past, the other two markers are infelicitous (25).

- (24)a. Current Past: Applies only to events that occurred 'today'
 - b. Near Past: Applies to *all* 'recent' events, including those that occurred 'today.'
 - c. Remote Past: Applies to *all* past events, including recent ones and ones that occurred 'today.'
- (Cable 2013:245(46a-c))

¹ There is one caveat, which is that the subordinate clause inside the experiential construction in (23) is also past-tensed. I assume that the contextual saliency and anteriority contributed by the past tense serves as an implicit restriction of the existential quantifier contributed by the experiential construction, similarly to Heim's (1994) analysis of a pronominal past combined with some time (see Appendix A).

(25) Context where the event may or may not have happened 'today'

Today, you visited a group of friends who live together. You saw them yesterday, but stopped by again today. When you went to their house, you noticed that they've got a new TV. You don't know exactly when they bought it: it could have been after your visit yesterday, but it could also have been today. Later in the day, you get home. Your roommate asks how everyone is. You want to tell her about the new TV.

- a. Nĩ-ma-**ra**-gũr-ire TV njeru!
ASRT-3pls-NRP-buy-PST.PRIV TV new
'They bought a new TV!'

Judgment: Correct in this context. Offered by speakers as translation of "They bought a new TV!"

- b. #Nĩ-ma-~~Ø~~-gũr-ire TV njeru!
ASRT-3pls-CUR-buy-PST.PRIV TV new
'They bought a new TV!'

Judgment: Not correct in this context. Would only be used if the speaker believed (or strongly suspected) the purchase happened today.

- c. #Nĩ-ma-**ā**-gũr-ire TV njeru!
ASRT-3pls-REMP-buy-PST.PRIV TV new
'They bought a new TV!'

Judgment: Not correct in this context, because you were in touch with them yesterday, and so know that the TV wasn't bought before then. (Cable 2013: 242-3(38))

- The saliency presupposition also projects under negation (26).

(26) Context:

"Watashi-no ichiban suki-na hon-wa Roujin to umi-da-yo."
I-NOM first like-COP book-TOP *The old man...-COP-PART*
'My favourite book is *The old man and the sea*.'

- a. #Sono hon yoma-naka-**tta**. Itsu de-ta-no?
that book read-NEG-PST when come.out-PST-Q
'I didn't read that book. When did it come out?'

- b. ✓Sono hon yon-da **koto na-i**. Itsu de-ta-no?
that book read-PST **thing NEG-NON.PST** when come.out-PST-Q
'I haven't read that book. When did it come out?'

- In English, too, the saliency presupposition projects under question (27) and negation (28).²

(27) Context: *Out of the blue*

- a. #**Did** you read *The old man and the sea*?
b. **Have** you read *The old man and the sea*?

(28) Context:

"My favourite book is *The old man and the sea*."

- a. # Oh, I **didn't** read that book. When did it come out?
b. Oh, I **haven't** read that book. When did it come out?

² See Appendix B for the lack of Maximize Presupposition effect in English.

5. Analysis

- The past tense denotes a function of type $\langle i, i \rangle$ encoding the anteriority and saliency presuppositions (29a).³
- The RT itself is contributed by a covert temporal pronoun (29b).

(29) Japanese and English

- $[[\text{Past}]]^c = \lambda t: t < t_c \ \& \ R_c(t) \ \& \ \neg \exists t' [t' \neq t \ \& \ R_c(t')]. \ t$
- $[[\text{pron}]]^g = g(n)$

In both languages, I assume that in the absence of an overt aspectual marker, there is a covert perfective marker (30). The analyses are extensional for simplicity.

(30) $[[\text{PFV}]] = \lambda P_{\langle v, t \rangle}. \ \lambda t. \ \exists e [e \subseteq t \ \& \ P(e)]$ (adapted from Kratzer 1998: 107)

In Partee's stove example (31), the past tense takes the covert temporal pronoun pron_1 and encodes the anteriority and saliency presuppositions. The whole sentence asserts that there isn't an eventuality e whose run time fits within $g(1)$ such that e is of the speaker's turning off the stove, where it is presupposed that $g(1)$ precedes the UT and $g(1)$ is the only member of the set of contextually salient times R_c , yielding a deictic reading.

(31) *Context: Driving on a highway, you suddenly realize and say:*

I didn't turn off the stove (Partee 1973: 602(3))

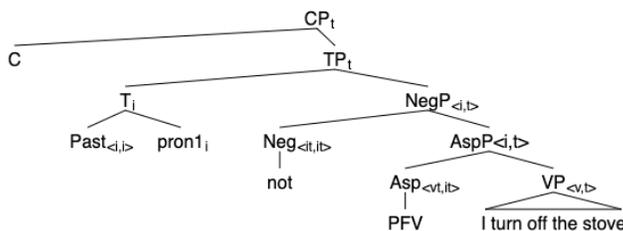
$$\begin{aligned} & [[\text{Past } \text{pron}_1 \text{ not PFV I turn off the stove}]]^{c,i,g} \\ &= [[\text{Past}]]^{c,i} [[\text{pron}_1]]^g \lambda t. \ \neg \exists e [e \subseteq t \ \& \ \text{I-turn-off-the-stove}(e)] \\ &= \lambda t: t < s^* \ \& \ R_c(t). \ t \ (g(1)) \ \lambda t. \ \neg \exists e [\tau(e) \subseteq t \ \& \ \text{I-turn-off-the-stove}(e)] \\ &= \neg \exists e [\tau(e) \subseteq g(1) \ \& \ \text{I-turn-off-the-stove}(e)] \\ &\quad \text{where } g(1) < s^* \ \& \ R_c(g(1)) \ \& \ \neg \exists t' [t' \neq g(1) \ \& \ R_c(t')] \end{aligned}$$


Fig. 1 Partee's (1973) stove example in English

6. Conclusion

- The past tense is pronominal in both English and Japanese.
- Both anteriority and saliency requirements are presuppositions, as evident in their projective behaviours (Ogihara and Kusumoto 2021) and Maximize Presupposition effects (Cable 2013).
- Incorporated new insights as to what existential tenses (Chen et al. 2020 on Javanese) and pronominal tenses (Cable 2013 on temporal markers in Gikūyū) look like.
- Which empirical phenomena should be mapped to which denotations?

³ The denotation is given as an absolute tense for simplicity, but a full account of temporal semantics considering subordinate contexts would follow Heim's (2015) proposal for a relative pronominal tense.

Appendix

A. Past tense inside an experiential construction

- I assume that the saliency and anteriority presupposition of the past tense inside the experiential construction *koto-ga a-ru* serves as an implicit restriction for the existential quantification contributed by *a-ru* 'there exist' (Fig. 2)

(32) *Roujin to umi yon-da koto a-ru?*
The old man and the sea read-PST thing exist-NONPST
 'Have you ever read *The old man and the sea*?'

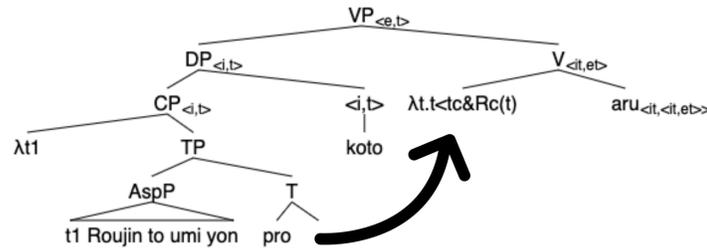


Fig. 2 Schematic representation of (32)

- This is similar to Heim's (1994) treatment of a pronominal past tense under some time (Fig. 3), except that in her analysis, the contextual restriction is covert, and the past tense morpheme itself, which denotes a temporal pronoun, stays in T.

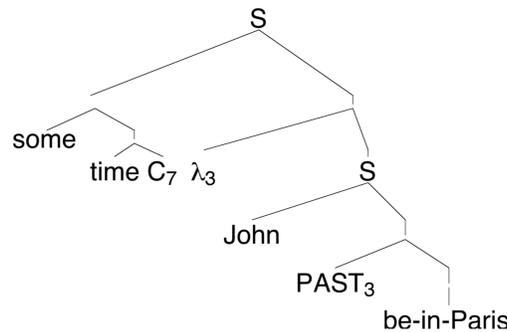


Fig. 3 Heim's (1994: 146(8)) analysis of *John was in Paris some time*

B. Lack of Maximize Presupposition effects with the English past

- Maximize Presupposition effects are not observed in English because English doesn't have a dedicated experiential construction. Present perfect is compatible with a context with a salient past interval under its resultative reading.

(33) Context: Two students are in a literature course, and *The old man and the sea* is assigned for today. One says to the other:

- Did you read *The old man and the sea*?
- Have you read *The old man and the sea*?

C. A past tense incompatible with a *before* clause can still be a pronominal tense.

- Observing that the Japanese past tense is unacceptable in *before* clauses (34) while the English past is allowed, Sharvit (2014) argues that the reason for the anomaly of the Japanese past is that it is existential (35).

(34) mET < sET < UT, mET < UT < sET
 *Taro-wa Hanako-ni a-tta maeni denwa-o shi-ta
 Taro-top Hanako-dat meet-pst before phone-acc do-pst
 intended: 'Taro called Hanako before he saw her.'

(35) $[[\text{Past}]] = \lambda Q_{\langle i, t \rangle}. \lambda t. \exists t' [t' < t \ \& \ Q(t')]$ (adapted from Sharvit 2014: 274(30b))

- Sharvit (2014) argues that, assuming that the time axis is dense and assuming the denotation of *before* includes Beaver and Condoravdi's (2003) EARLIEST operator (36), when P contains an existential tense, the earliest P time cannot be identified.

(36) $[[\text{before}]] = \lambda P. \lambda t. t < \text{EARLIEST}(P)$ where $[[\text{EARLIEST}]] = \lambda P. \text{the } t \text{ such that } P(t) \ \& \ \forall t' [P(t') \rightarrow t < t']$

- E.g., in (37), for any time t' such that there is a time t'' preceding t' and Taro sees Hanako at (t''), there is always another time between t'' and t' that better qualifies as the earliest time that is preceded by t'' . Therefore, having an existential tense results in a presupposition failure.

(37) $\exists t < s * [\text{Taro-call-Hanako}(t) \ \& \ t < \text{EARLIEST}(\{t' | \exists t'' [t'' < t' \ \& \ \text{Taro-see-Hanako}(t'')\})]$
 (modelled on Sharvit 2014: 272(26b))

- However, incompatibility with a *before* clause cannot be reduced to an existential denotation. In particular, a relative past tense taking the matrix ET as its EvalT would be incompatible with the denotation of *before*, which places the *before* clause ET after the matrix ET. This is the case for Japanese (Ogihara 1996).
- Sharvit's argument that an existential past tense is incompatible with *before* is valid, but the reverse does not hold. It is wrong to assume that any past tense incompatible with a *before* clause is necessarily existential. The diagnostic is more nuanced: if a past tense is incompatible with a *before* clause when both the matrix and *before* clause ETs precede the UT, and it is independently known to be an absolute tense, then it is an existential tense.

References

- Cable, Seth. 2013. Beyond the past, present, and future: towards the semantics of 'graded tense' in Gikūyū. *Natural Language Semantics* 21: 219-276.
- Chen, Siwei, Jozina Vander Kloek, Lisa Matthewson, and Hotze Rullmann. 2020. The 'experiential' as an existential past: Evidence from Javanese and Atayal. *Natural Language and Linguistic Theory*.
<https://doi.org/10.1007/s11049-020-09488-6>
- Grønn, Atle, and Arnim von Stechow. 2016. Tense. In *The Cambridge handbook of formal semantics*, ed. by Maria Aloni and Paul Dekker, 313–341. Cambridge: Cambridge University Press.
- Heim, Irene. 1994. Comments on Abusch's theory of tense. In *Ellipsis, Tense and Questions*, ed. by Hans Kamp, 143–170. Dytana 2 Deliverable.
- Heim, Irene. 2015. Embedded referential tense. Paper presented at *Sinn und Bedeutung 20*, University of Tübingen.
- Kratzer, Angelika. 1998. More structural analogies between pronouns and tenses. In *Semantics and Linguistic Theory (SALT)* 8, 92–110.
- Kusumoto, Kiyomi. 1999. Tense in embedded contexts. Doctoral dissertation, University of Massachusetts at Amherst.
- Musan, Renate. 1997. Tense, predicates, and lifetime effects. *Natural Language Semantics* 5: 271–301.
- Ogihara, Toshiyuki. 1996. Tense, attitudes, and scope. Dordrecht: Kluwer.
- Ogihara, Toshiyuki and Kiyomi Kusumoto. 2021. The interpretation of tense: "I didn't turn off the stove." In *The Wiley Blackwell Companion to Semantics*, ed. by Daniel Gutzmann, Lisa Matthewson, Cécile Meier, Hotze Rullmann, and Thomas Ede Zimmermann, 1-24. New York: John Wiley & Sons, Inc.
- Nakau, Minoru. 1976. Tense, Aspect, and Modality in *Syntax and Semantics Vol. 5: Japanese Generative Grammar*, ed. by Masayoshi Shibatani, 421-482. New York: Academic Press.
- Pancheva, Roumyana. 2003. The aspectual makeup of perfect participles & the interpretations of the perfect. In *Perfect Explorations*, ed. by A. Alexiadou, M. Rathert, and A. von Stechow. 277-306. Berlin: Mouton de Gruyter.
- Partee, Barbara H. 1973. Some structural analogies between tenses and pronouns in English. *Journal of Philosophy* 18: 601–609.
- Partee, Barbara H. 1984. Nominal and temporal anaphora. *Linguistics and Philosophy* 7: 243–286.
- Sharvit, Yael. 2014. On the universal principles of tense embedding: the lesson from *before*. *Journal of Semantics* 31: 263–313.
- von Stechow, Arnim. 2009. Tenses in compositional semantics, In *The Expression of time*, ed. by Wolfgang Klein and Ping Li, 129-166. Berlin: Mouton de Gruyter.