A Modal Approach to the Japanese High-Applicative Expression *-temoraw*

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1. Introduction

Introduction. The standard treatment of high-applicatives in formal semantics is to see them as an expression introducing an additional semantic role to the event structure. For example, the Japanese benefactive suffix *-temoraw*, as in (1)b, is predicted to have the semantics in (2)b (Pylkkänen 2008).

(1) a. John-ga hasit-ta. b. watasi-ga John-ni hasit-**temorat**-ta.
John-NOM run-PST I-NOM John-DAT run-APPL-PST
'John ran.' 'I had John run, from which I benefited.'

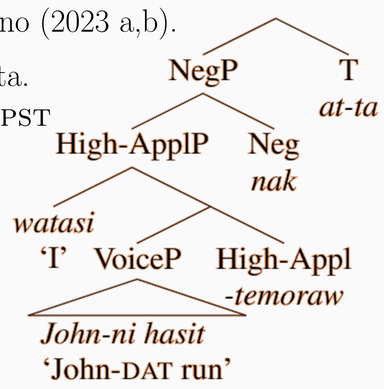
(2) a. $[\![1a]\!] = \exists e_s.\text{run}(e) \wedge \text{AG}(e, j)$. b. $[\![1b]\!] = \exists e_s.\text{run}(e) \wedge \text{AG}(e, j) \wedge \text{BEN}(e, I)$.

While acknowledging the importance of such role-based semantics, we argue that MODAL SEMANTICS is also indispensable for high-applicative semantics.

2. Previous Literature

- **(Morpho)syntax**: Pylkkänen (2008), Nishigauchi (2014), Hasegawa (2018), Aoyagi (2010, 2020), Yamada and Nagano (2023 a,b).

(3) watasi-ga John-ni hasit-te moraw-**anak** at-ta.
I-NOM John-DAT run-CV APPL-NEG be-PST
'John did not run for me.'



- **Semantics**:

1. **Theta-role-based analysis**

(4) **Pylkkänen (2008)**,
$\neg\exists e.[run(e) \wedge \text{AG}(e, John) \wedge \text{BEN}(e, sp)]$.

(5) Context A There was an interclass running competition. The runner of Class A, to which the speaker belongs, is Penny, who is an amazing athlete and can run faster than any other competitor except John, who can run as fast as Penny. They have been evenly matched rivals. **Unfortunately**, however, John had been selected to be the runner of Class B. As expected, the relay was a close race, and eventually **John won the event**. (3):*

(6) $\neg\exists e.[run(e) \wedge \text{AG}(e, John)] \bullet \exists e'.\text{BEN}(e', sp)$

(7) Context B: The runner of Class A, to which the speaker belongs, was Penny, an amazing athlete who can run faster than any other competitor except John. On the game day, however, **John was sick** and couldn't run. Penny won the event, so **the speaker was happy**. (3):*

2. **Quantification over eventualities**

(8) **Bosse et al. (2012)**:

$$\neg\left[\begin{array}{l}\exists e.\ [\text{run}(e) \wedge \text{AG}(e, John)] \\ \wedge\ \exists e'.\left[\begin{array}{c}\text{exper}(e') \wedge \text{EXP}(e', sp) \\ \bullet \\ \forall e''\left[\,[\text{run}(e'') \wedge \text{AG}(e'', John)] \rightarrow \text{SOURCE}(e'', e')\,\right]\end{array}\right]\end{array}\right].$$

(9) Context C There was a running competition. John, an excellent runner, participated in the race. The speaker's friend, who loves this kind of event, enjoyed the match, in which John was running. On the next day, she told the speaker about the race, so the speaker knows that John participated in the game, but it does not matter to the speaker. **The speaker has not benefited from the running competition**. (3):*

(10) **Tomioka & Kim (2017)**

$$[\![\text{ High-Appl }_{(i)}]\!]^g = \lambda p_{<s,t>}.\left[p \bullet \text{GEN}(e).\,[p(e)]\,.\left[\exists e'.\left[\begin{array}{c}\text{BEN}(e') \\ \wedge\ \text{EXP}(g(i), e') \\ \wedge\ \text{RESULT}(e')(e)\end{array}\right]\right]\right].$$

(11) Context D The speaker, Penny, is dating with Leonard, who plays soccer. Today, his team plans to have a day-long elimination tournament. If a team wins a game, they will continue playing until they are beaten by another team. Generally, Penny wants Leonard's team to win. But **only for today**, she wants Leonard to be sent home as soon as possible, because today is her birthday. She wants to be with him as much as she can. At their first match, Leonard's team loses the game, because his teammate, John, made an own goal. (3):*

3. **Quantification over individuals**

(12) **Kubota and Uegaki (2009)**

$$\left[\begin{array}{c}\text{INVOLVED}(I, \text{run}(John)) \\ \bullet \\ \forall z, y.\left[\left[\begin{array}{c}z, y \in \mathbf{C} \\ \wedge\ \text{INVOLVED}(y, \text{run}(z))\end{array}\right] \rightarrow \text{BEN}(y, \text{run}(z))\right]\end{array}\right]$$

(13) Context E Leonard is the team leader for an interclass running competition. However, he is not a good runner. So he asked John to participate in the race, and John did run,

a. ... and as anticipated, he won the race.
b. ... but **unfortunately, he could not win the race**. (1):*

3. Towards an analysis

(14) **Main ideas**

a. The benefactive meaning lies in the **non-at-issue dimension** (Bosse et al. 2012; a.m.o).
b. The benefactive meaning involves **quantification of worlds** (cf., Portner 1998). New!

- Intuition 1: High-applicatives have a hidden conditional semantics.
"If John runs, the speaker will benefit from his running."

(15) $[\![\textbf{\textit{-temoraw}}]\!]^{w,B,NI} = \lambda f_{st}.\lambda x_e.\lambda e_s.\ f(e) \wedge \text{VOL}(e, x) \wedge \text{ASK}(e) \bullet \left(\begin{array}{l}\text{The speaker's wish comes true} \\ \text{if an event } f \text{ takes place}\end{array}\right)$.

- **Problem**: Context E (b)

(16) √zannen dat-ta kedo, hasi-**te kure**-te arigatoo.
regrettable COP-PST although run-CV APPL-CV thank you
'Although it is regrettable, thank you for your running, from which I would have benefited.'

- Intuition 2: Unexpected worlds are off the table.

(17) $[\![\textbf{\textit{-temoraw}}]\!]^{w,B,NI} = \lambda f_{st}.\lambda x_e.\lambda e_s.\left(\begin{array}{c}f(e) \\ \wedge\text{VOL}(e, x) \\ \wedge\text{ASK}(e)\end{array}\right) \bullet \left(\begin{array}{l}\text{The speaker's wish comes true, if} \\ \text{(i) an event } f \text{ takes place} \\ \wedge\ \text{ (ii) no unexpected thing happens}\end{array}\right)$.

4. Formal analysis

(18) $[\![\textbf{\textit{-temoraw}}]\!]^{w,B,NI} = \lambda f_{st}.\lambda x_e.\lambda e_s.\ f(e) \wedge \text{VOL}(e, x) \wedge \text{ASK}(e) \bullet (\ \underset{\uparrow}{\text{Set } W_1}\ \subseteq\ \underset{\uparrow}{\text{Set } W_2}\ )$.
$\{\, w' \in S(f) :\ \nexists w'' \in S(f).\ w'' \prec_{NI(w,sp)} w' \,\}$ $\cap B(w, sp)$

$S(f)$ is defined as $\{w : \exists e.f(e) \text{ in } w\}$ ↑

- **Modal Base**

(19)a. $B = \left\{\begin{array}{l}\{w :\ \text{She sings a birthday song for her boyfriend in } w\}, \\ \{w :\ \text{She eats a birthday cake with her boyfriend in } w\}, \\ \quad\vdots \\ \{w :\ \text{She receives a birthday present from her boyfriend in } w\}\end{array}\right\}$

b. $\cap B = \{w : \text{She enjoys all the birthday events with Leonard in } w\}$

- **Ordering Source**

(20)a. $NI(w) = \left\{\begin{array}{l}\{w' :\ \text{Leonard is not going to John's place to cheer him up in } w'\}, \\ \{w' :\ \text{Leonard is not hit by a bus after the match in } w'\}, \\ \quad\vdots \\ \{w' :\ \text{Electoricity of the entire city is not down in } w'\}\end{array}\right\}$

b. $\cap NI(w) = \{w : \text{No unexpected things from the perspective of the speaker of the evaluation world } w \text{ happen in } w\}$

5. Explanation

- Denotation for (3):

(21) $$\left[\begin{array}{c}\nexists e.\text{run}(e, John) \\ \bullet \\ \{\, w' \in S(\lambda e.\text{run}(e, John)) :\ \nexists w'' \in S(\lambda e.\text{run}(e, John)).\ w'' \prec_{NI(w)} w' \,\} \subseteq \cap B(w)\end{array}\right]$$

- Context A: (21) correctly predicts that **(3) is infelicitous** in this context:
→ because for the sentence to be acceptable, there must not be an event of John's running.

- Context B: (21) correctly predicts that **(3) is infelicitous** in this context,
→ because if John had run, the speaker would have been upset.

- Context C: (21) correctly predicts that **(3) is infelicitous** in this context,
→ because John's running and the speaker's bouletic modal base are related.

- Context D: (21) correctly predicts that **(3) is infelicitous** in this context,
→ because what is important is not the speaker's general bouletic states, but the bouletic worlds relativized to the particularized context.

- Context E: (18) correctly predicts that **(1) is felicitous** in this context, as we discussed above,
→ because unexpected scenarios are alraedy excluded.

References

Aoyagi, Hiroshi. 2010. On the asymmetry in passives between japanese and korean. In *Papers from the 27th national conference of the English Linguistic Society of Japan (JELS 27)*. 11–20.• Aoyagi, Hiroshi. 2020. How high is high applicative in Japanese and Korean? *Japanese/Korean linguistics* 28. 1–14. • Bosse, Solveig, Bruening, Benjamin & Yamada, Masahiro. 2012. Affected experiencers. *Natural Language and Linguistic Theory* 30(4). 1185–1230 • Hasegawa, Nobuko. 2018. Benefactives. In Hasegawa, Yoko (ed.), *The Cambridge handbook of Japanese linguistics*, 509–529. Cambridge: Cambridge University Press. • Kubota, Yusuke & Uegaki, Wataru. 2009. Continuation-based semantics for conventional implica- tures: the case of Japanese benefactives. In *Proceedings of SALT* 31. 306–323. • Nishigauchi, Taisuke. 2014. Reflexive binding: awareness and empathy from a syntactic point of view. *Journal of East Asian Linguistics* 23. 157–206. • Portner, Paul. 1998. The progressive in modal semantics. *Language* 74. 760–787. • Pylkkänen, Liina. 2002. *Introducing arguments*:Ph.D. Dissertation, MIT. • Pylkkänen, Liina. 2008. *Introducing Arguments*. Cambridge, MA.: MIT press • Schäfer, Florian. 2008. *The Syntax of (Anti-)Causatives*. Philadelphia: John Benjamins. • Tomioka, Satoshi & Kim, Lan. 2017. The give-type benefactive constructions in Korean and Japanese. *Journal of East Asian Linguistics* 26. 233–257. • Wood, Jim. *Icelandic morphosyntax and argument structure*. Ph. D Dissertation, New York University. • Wood, Jim & Marantz, Alec. 2017. The interpretation of external arguments. In D'Alessandro, Robert & Franco, Irene & J., Gallego Ángel (eds.), *The Verbal Domain*, 255–278. Oxford: Oxford University Press. • Yamada, Akitaka & Taika Nagano (2023a). The 'passivized' high applicative construction in Japanese. In Nihon Gengogakkai Dai-166-kai Taikai Yokō-shū (Proceedings of the 166th Meeting of the Linguistic Society of Japan). Linguistic Society of Japan, Senshu University. June 17-18. • Yamada, Akitaka and Taika Nagano (2023b). Not always introducing arguments: the syntax of high-applicative constructions in Japanese. WAFL 17.