

Process, Telicity, and Event Cancellability in Japanese: A Questionnaire Study

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1. INTRODUCTION

In the literature on aspect, it is typical to distinguish between telic and atelic predicates in terms of whether or not the event denoted by the predicate progresses towards a goal. For example, the predicate *open the window* is considered telic because the denoted activity of opening the window progresses towards a target state, namely, the state of the window being open, whereas a simple predicate like *walk* is atelic because no goal is linguistically specified. In English, if a telic event is linguistically asserted, negating it leads to grammatical unacceptability. Consider now the following examples (from Tsujimura (2003: 394)):

- (1) *I opened the window, but it didn't open
because it was rusty.
- (2) *I moved the desk, but it didn't move
because it was too heavy.

In the first half of example (1), it is asserted that the window was opened, but in the latter half, this is negated. Even though the failure of the telic event is contextually supported by the following *because* clause, this example is considered unacceptable. The same applies to the example in (2).

By contrast, it is pointed out in the litera-

ture (Ikegami (1985), Kageyama (1996), Miyajima (1985), Tsujimura (2003), etc.) that predicates denoting telic events in Japanese can often be cancelled, as exemplified by the sentences in (3) and (4) (Tsujimura (2003: 393)):

- (3) *mado-o ake-ta kedo,*
window-Acc open(TR)-Past although
sabituite-ite aka-nakat-ta.
being_rusty open(INTR)-Neg-Past
'I opened the window, but it did not open
because it was rusty.'
- (4) *tsukue-o ugokasi-ta ga*
desk-Acc move(TR)-Past although
omosugi-te ugoka-nakat-ta.
being_too_heavy move(INTR)-Neg-Past
'I moved the desk, but it did not move be-
cause it was too heavy.'

To account for this fact, Tsujimura (2003) argues (i) that the telicity in these Japanese examples is not lexically encoded and (ii) that the telic interpretation derives instead from conversational implicature. It is accepted independently that inferences invoked by implicature can be cancelled; Tsujimura thus invokes this strategy rather than lexical encoding for Japanese.

In this paper, we examine Tsujimura's hypothesis through a questionnaire study. The results of which suggest that Tsujimura's hypothesis is not quite correct. We argue instead that the telicity in Tsujimura's examples is actually lexically encoded, and that telicity cancellability in Japanese depends (at least partly) on the strength of the process component in the event denoted by the predicate.

In order to clarify our claims, it is useful to introduce two other types of 'telic predicate' that can be compared with Tsujimura's examples with respect to telicity. The first type is what we shall refer to as *fake telic predicates*. Consider

the following examples:

(5) *kare-wa te-o arat-ta.*

he-Top hands-Acc wash-Past

‘He washed his hands.’

(6) *kare-wa kyattya-ni booru-o nage-ta.*

he-Top catcher-Dat ball-Acc throw-Past

‘He threw the ball to the catcher.’

Both predicates in (5) and (6) appear to denote a process of activity and a result state. In *te-o aratta* ‘washed his hands’ in (5), the washing activity precedes the state (having clean hands), while in (6) *kyattya-ni booru-o nage-ta* ‘threw the ball to the catcher’, the throwing activity is naturally interpreted as being followed by the state of ball’s being in the catcher’s glove. Although these results are understood to be true in a normal context, they could be false: (5) can be truly asserted even if the hands remained dirty after the washing activity. Actually these sentences are easily cancellable even in English (Bouillon and Bussa.(2001)). Thus, an English sentence like *he washed his hands, but his hands remained dirty* is perfectly acceptable. We call these kind of predicates *fake telic predicates*.¹

The telicity in fake telic predicates is obviously conversationally implicated. If Tsujimura’s assumption is on the right track, her examples should behave like fake telic predicates. We tested this prediction using a questionnaire, the results of which will be discussed shortly.

We also examined whether Tsujimura’s predicates behave differently from a second kind of telic predicate, namely *typical achievement predicates*. The difference between Tsujimura’s predicates and typical achievements seems to be that the former involve process components, while the latter do not. The following sentence in (7) describes a typical achievement:

(7) *ueetoresu-ga gurasu-ni mizu-o*

waitress-Nom glass-Dat water-Acc

(*3-pun) *mitasi-ta.*

(*for 3 minutes) fill-Past.

‘The waitress filled the glass with water

(*for 3 minutes).’

In (7), the state of the glass filled with water is linguistically entailed, while the event lacks a lexically encoded process component, as indicated by the incompatibility with a durative adverbial like *for 3 minutes*. We predict that event cancellation is unacceptable for typical achievements, because if the telicity in this type of predicate is cancelled, then no part of the previous assertion will remain intact. Therefore, this type of predicate cannot be asserted and cancelled at the same time—it would induce a sheer contradiction. This leads to our hypothesis that telicity cancellation is possible to the extent that the inferred process component is strong.² Unlike typical achievements, however, Tsujimura’s examples do seem to contain process components. For example:

(8) *yaoyasan-ga suika-o*

greengrocer-Nom watermelon-Acc

3-pun *hiyasi-ta.*

3-minutes cool-Past.

‘The greengrocer cooled the watermelon for three minutes.’

In (8), a cooling activity is involved as well as a result, as evidenced from its compatibility with a durative adverbial. In such a case, the telic event is cancellable in Japanese because the process component is still asserted even when the result state is negated.³

If our hypothesis is on the right track, it is predicted that the same verb will induce different acceptability judgments depending on the choice of direct objects, because the direct objects may affect the aspectual properties of the predicate in so far as having direct objects

denoting concrete entities would induce activities with concrete processes, compared with having abstract direct objects. For example:

(9) *riidaa-ga minna-no iken-o*
 leader-Nom everyone-Gen opinion-Acc
matome-ta-ga, kekkyoku
 put_together-Past although, in_the_end
matomara-nakat-ta.
 be_settled-Neg-Past.
 ‘The leader put together everyone’s opinion, but failed in the end.’

(10) *?riidaa-ga sono-syoodan-o*
 leader-Nom the_business_deal-Acc
matome-ta-ga, kekkyoku
 put_together-Past although, in_the_end
matomara-nakat-ta.
 be_settled-Neg-Past.
 ‘The leader achieved the business deal, but failed in the end.’

Both (9) and (10) contain the same verb *matometa* ‘put together’ with different objects, *minna-no iken* ‘everyone’s opinion’, and *sono-syoodan* ‘the business deal’, respectively. These sentences are thus identical except for the choice of direct objects. However, intuitively, the acceptability of (10) is degraded compared with (9). The difference in acceptability judgments between (9) and (10), if any, may reflect the difference in the strength of the inferred process component stemming from the choice of different objects: it is easier to infer a concrete activity in specific time and place in (9) than in (10). This idea is supported by the difference in the acceptability of the insertion of a temporal durative adverb *itizikan-ni watatte* ‘spanning for an hour’:

(9’) *riidaa-ga minna-no-iken-o iti-jikan-ni*
watat-te matometa.
 ‘The leader put together everyone’s opinion for an hour.’

(10’) *?riidaa-ga syoodan-o iti-jikan-ni*
watat-te matometa.

Thus we can conclude in this case that even though both sentences contain the same verb *matometa*, it is the selection of the direct object that determines whether the whole predicate is interpreted as an accomplishment or an achievement (cf. Vendler (1957), Dowty (1979)). We can use this type of contrast to test the hypothesis on the correlation between the strength of the inferred process component and the acceptability of telicity cancellation.

In summary, we would like to address the following questions:

1. If the telicity in Japanese is only conversationally implicated as Tsujimura (2003) argues, are Tsujimura’s examples judged in the same way as fake telic examples?
2. What about the telicity of typical achievement predicates?
3. Is it the case, as we have claimed, that the strength of the process component is one of the major factors in determining the acceptability of cancellation?
4. If so, does the choice of direct object influence the cancellability to the extent that it induces concrete activities?

In the following section we report the results of a questionnaire study on the above issues.

2. QUESTIONNAIRE STUDY

2.1. Method

2.1.1. Materials

41 test sentences were prepared. All of them consisted of two conjuncts, where the second conjunct always contained a predicate cancelling the result event denoted or inferred in the first half.

The main materials included the following types of predicates: Tsujimura’s predicates, fake

telic predicates, typical achievements, and predicates with varied objects.

In order to preclude the possibility of idiomatic or metaphoric interpretation by putting the two verbs next to each other (e.g., *aitu-wa korosi-te-mo sina-nai* ‘He wouldn’t die even if he is killed.’ = ‘He is a really tough guy.’), we put at least one word between the two verbs.

Tsujimura’s Predicates

The item list included the most representative of Tsujimura’s predicates, seven items in total:

(11) **hiyasita ‘cooled’**

*yaoya-san-ga suika-o hiyasita-ga,
kion-ga takaku-te hie-nakat-ta.*

‘The greengrocer cooled the watermelon, but it was not cooled because of the high temperature.’

(12) **moyasita ‘burnt’**

*oboosan-ga otiba-o moyasita-ga,
simette-ite moe-nakat-ta.*

‘The monk burnt the fallen leaves, but they didn’t burn because they were wet.’

(13) **tokasita ‘melted’**

*baatendaa-ga koori-o tokasita ga
reibou-ga kiki-sugi-te-ite toke-nakat-ta.*

‘The bartender melted ice, but it did not melt because the air-conditioning worked too well.’

(14) Other Tsujimura predicates used: **ireta ‘put into’, aketa ‘opened’, ugokasita ‘moved’, kawakasita ‘dried’**

Fake Telic Predicates

A set of five fake telic predicates were also included:

(15) **aratta ‘washed’**

*kare-wa te-o aratta ga
te-wa kirei-ni nara-nakat-ta.*

‘He washed his hands, but it was not cleaned.’

(16) **nageta ‘threw’**

*otoko-wa tooku-ni iru hito-ni ball-o
nageta ga, ball-wa todoka-nakat-ta.*

‘The man threw the ball to the person in the distance, but it didn’t reach her.’

(17) **okutta ‘sent’**

*kare-wa tegami-o okut-ta ga,
tegami-wa aite-ni todoka-nakat-ta.*

‘He sent the letter, it didn’t reach to the recipient.’

(18) Other fake telic predicates used: **kyuukousita ‘hurried’, sosoida ‘poured’**

Typical Achievements

Third, we included five items containing typical achievement predicates as in(19)–(21):

(19) **kireinisita ‘cleaned’**

*kaseehu-ga heya-o kireeni-sita-ga,
heya-wa tirakatta-mama-datta.*

‘The maid cleaned the room, but it remained disorderly.’

(20) **mitasita ‘filled’**

*weetoresu-ga gurasu-ni mizu-o mitasita-ga,
hanbun-sika haira-nakat-ta.*

‘The waitress filled the glass with water, but it was poured no more than half of the glass’

(21) Other predicates used: **oeta ‘finished’; nokosita ‘left’; kita ‘came’**

Predicates with Varied Direct Objects

Finally, we included sentence pairs where the verbs were kept constant while the direct objects were varied in such a way that one of the pair denoted a more concrete activity and the other a more abstract activity.

(22) **matometa ‘put together’**

(see (9) and (10))

(23) **toita ‘solved’**

a. *zyukensee-ga sono rensyuumondai-o
toita-ga, kekkyoku toke-nakat-ta.*

‘The student solved the exercise, but failed in the end.’

- b. *kookoosei-ga sono nanmon-o toita-ga, kekkyoku toke-nakat-ta.*
 ‘The high school student solved the hard problem, but failed in the end.’
- c. *kanozyo-wa karesi-no gokai-o toita-ga, kekkyoku toke-nakat-ta.*
 ‘She resolved her boyfriend’s misunderstanding, but failed in the end.’

Regarding (23), it seemed to us that solving an exercise is more naturally associated with a concrete activity with specific duration than resolving someone’s misunderstanding, so our prediction was that the cancellation in (23a) and (23b) should be more acceptable than the cancellation in (23c). We also considered that solving a hard problem to be more result-oriented than solving an exercise, leading to the lowered acceptability of the former sentence compared with the latter.

(24) *moyasita* ‘burnt’

- a. =(12) *otiba-o moyasita* ‘burnt fallen leaves.’
- b. *kookookyuuuzi-ga toosi-o moyasita-ga, kimoti-ga meit-te toosi-wa moe-nakat-ta.*
 ‘The high school baseball player burnt his fighting spirit (=raised his spirits) but failed because he was feeling depressed.’

In the above example, *otiba-o moyasita* ‘burnt leaves’ is associated with a concrete activity, while *toosi-o moyasita* ‘burnt his fighting spirit (=raised his spirits)’ represents an abstract psychological state. We thus predicted that *otiba-o moyasita* ‘burnt leaves’ was more cancelable than *toosi-o moyasita* ‘raised his spirits’.

Our study included some other materials that cannot be detailed in this paper due to space limitation; see Aoki and Nakatani (to appear) for the full list of materials. In the results section, we limit attention to the materials shown above.

2.1.2. Participants and Procedure

The participants were 70 native speakers of Japanese at Konan University. Most of them were undergraduates; some were graduate students.

Participants were handed out an instruction sheet together with three sheets of paper containing the materials. They were asked to judge the naturalness of the sequence in each item on a 5-point scale, by circling one of the 5 numerals on the scale. ‘5’ on the scale corresponded to the most natural, and ‘1’ corresponded to the most unnatural. The participants were instructed to rate each item quickly following their intuitions without undue reflection.

Participants were explicitly instructed in the sheet to rate the naturalness of the connection between the first half and second half, to try to eliminate the possibility that they would judge the sentences on the basis of extraneous factors. The materials were pseudo-randomized in such a way that similar sentences or paired sentences would not appear too close to one another.

2.2. Results and Discussion.

The grand mean score of the 41 items analyzed was 3.1 ($SD=1.5$), the median was 3.0, the lowest mean score by item was 1.1, and the highest mean score by item was 4.8.

2.2.1. Fake Telic, Typical Achievements, and Tsujimura’s Predicates

Fake telic predicates all showed very high cancellability. The mean scores of the fake telic predicates were: *okutta* ‘sent’ $M=4.8$ ($SD=0.6$); *nageta* ‘threw the ball’ $M=4.8$ (0.6); *kyuukousita* ‘hurried to the site’ $M=4.6$ (0.9); *sosoida* ‘poured’ $M=4.2$ (1.3); and *aratta* ‘washed’ $M=4.1$ (1.1).

By contrast, Tsujimura’s examples were

not rated as high as the fake telic examples. The mean ratings ranged from 2.4 to 3.8: *hiyasita* ‘cooled’ $M=3.8$ (1.3); *ireta* ‘put into’ $M=3.8$ (1.1); *moyasita* ‘burnt’ $M=3.5$ (1.4); *kawakasita* ‘dried’ $M=3.2$ (1.4); *tokasita* ‘melted’ $M=3.0$ (1,3); *aketa* ‘opened’ $M=2.5$ (1.5); *ugokasita* ‘moved’ $M=2.4$ (1.3).

Typical achievements, however, were rated even lower: *kireinisita* ‘cleaned’ $M=2.3$ (1.4); *oeta* ‘finished’ $M=2.3$ (1.4); *mitasita* ‘filled’ $M=1.8$ (1.1); *kita* ‘came’ $M=1.6$ (1.1); *nokosita* ‘left’ $M=1.1$ (0.3).

Figure 1 shows the comparison between these three types of the predicates. Pearson’s χ^2 tests on the pairwise comparisons between the three types all revealed highly significant differences (all $\chi^2s > 189$, $df=4$, $ps < .001$).

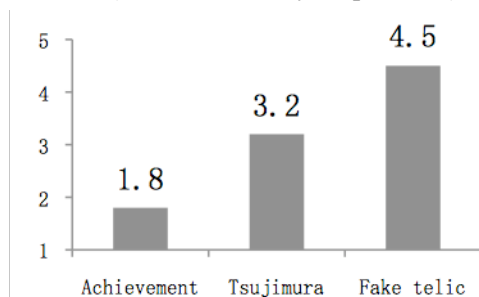


Figure 1 The mean scores of the three types of the “telic predicate”

The contrast between the fake telic predicates and Tsujimura’s predicates cannot be accounted for by the assumption that the telicity in Tsujimura’s predicates are conversationally implicated. However, if we simply assume that the degraded acceptability of Tsujimura’s predicates were due to their lexical telicity, then the contrast with typical achievements cannot be accounted for. By contrast, these results seem to support our hypothesis on telicity and the inferred process component of the denoted event: (i) the telicity in Tsujimura’s predicates is lexically encoded, which leads to significantly degraded acceptability compared to the fake telic predicates, whose telicity is implicated; and

(ii) Tsujimura’s predicates were judged better than typical achievements, because the former induced stronger inferences of the process components in the denoted events.

2.2.2. Varied Direct Objects

Let us now consider the results from the items with varied direct objects. Table 1 summarizes the results from the items presented in 2.1.1. As we predicted, *matometa* ‘put together’ was rated higher with *iken* ‘opinion’ than with *syoodan* ‘business deal’. *toita* ‘solved’ was rated higher with a concrete object *rensyuumondai* ‘exercise’ than with an abstract object *gokai* ‘misunderstanding’; moreover, *rensyuumondai-o toita* ‘solved the exercise’ gained higher scores than *nanmon-o toita* ‘solved the hard problem’, again as expected. Regarding *moyasita* ‘burnt’, this predicate was rated higher with *otiba* ‘fallen leaves’ than *toosi* ‘fighting spirit’. These results show that the choice of direct objects affects the aspectual property of predicates, in such a way that concrete direct objects induce stronger inferences on concrete activity processes, leading to higher cancellability.

| matometa | Mean (SD) |
|---|------------------|
| <i>iken</i> ‘opinion’ | 3.3 (1.4) |
| <i>syoodan</i> ‘business deal’ | 2.1 (1.4) |
| $\chi^2=22.8$, $df=4$, $p < .001$ | |
| toita | Mean (SD) |
| <i>rensyuumondai</i> ‘exercise’ | 3.6 (1.4) |
| <i>nanmon</i> ‘hard problem’ | 2.8 (1.4) |
| <i>gokai</i> ‘misunderstanding’ | 2.0 (1.1) |
| <i>rensyuumondai</i> vs. <i>nanmon</i> : $\chi^2=12.5$, $df=4$, $p < .05$ | |
| <i>nanmon</i> vs. <i>gokai</i> : $\chi^2=13.5$, $df=4$, $p < .01$ | |
| moyasita | Mean (SD) |
| <i>otiba</i> ‘fallen leaves’ | 3.5 (1.4) |
| <i>toosi</i> ‘spirits’ | 2.1 (1.2) |
| $\chi^2 = 36.7$, $df = 4$, $p < .001$ | |

Table 1 Mean ratings of the items with varied objects and the results from Person’s χ^2 tests

3. CONCLUSION

On the basis of our study, we conclude that Tsujimura's hypothesis that telicity in Japanese is conversationally implicated was not justified because her examples were not rated as high as the fake telic examples. In addition, her examples were rated higher than typical achievements. Therefore, we conclude (i) that telicity in Japanese is lexically encoded, and (ii) that event cancellation is acceptable to the extent that the inferred process component of the denoted event is strong. This hypothesis was further supported by the results from the items with varied direct objects, where we found that the concreteness of the direct objects positively affect the acceptability of event cancellation.

NOTES

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¹ What we call "fake telic" predicates are simply called TELIC in the Generative Lexicon theory (Pustejovsky 1995), which Bouillon and Bussa (2001) adopts. Their definition of TELIC as a modal, intensional operator is narrower than those widely adopted in the literature of aspect (e.g., Tenny (1989)). Our term "fake telic" is exactly TELIC in this narrower sense.

² A similar point has been suggested by Miyajima (1985: 252). In his questionnaire study, he found that the addition of an activity-oriented manner adverbial would improve the acceptability of event cancellation, and he conjectures that the reason for this is that the addition of the adverbial emphasizes the durativity of the activity.

³ It should be noted that logically speaking, this is still a contradiction: if P&Q are asserted, both P and Q must be true, and thus this assertion would contradict with the proposition that Q is false. The "feeling" that some truth about P&Q=I is still left even when Q is negated should probably come from

some pragmatic principles, and this is where English and Japanese diverge.

REFERENCES

- Aoki, Natsuno and Kentaro Nakatani. (To appear) "Zisyoo Kyanseru Kanoosee ni tuite no Situmonsi Tyoosa: Sono Syoosai Deeta [A Questionnaire Study on Event Cancellability: Its Data in Detail]." To appear in *The Journal of Konan University; Faculty of Letters* 163.
- Bouillon, Pierrette and Federica Bussa. 2001. "Qualia and the Structuring of Verb Meaning." in P. Bouillon and F. Bussa (eds.) *The Language of Word Meaning*, 91-123. Cambridge: Cambridge University Press.
- Dowty, David. 1979. *Word Meaning and Montague Grammar*. Dordrecht: Reidel.
- Ikegami, Yoshihiko. 1985. "'Activity'- 'Accomplishment' - 'Achievement': a Language that Can't Say 'I Burned It, but It Didn't Burn' and One That Can." In A. Makkai & A. K. Melby (eds.) *Linguistics and Philosophy: Essays in Honor of Rulon S. Wells*, 265-304. Amsterdam: John Benjamins.
- Kageyama, Taro. 1996. *Doosi Imiron* [Verbal Semantics]. Kurosio.
- Miyajima, Tatsuo. 1985. "Doa o Aketa ga Akanakatta: Doosi no Imi ni Okeru <Kek-kasee> [I Opened the Door but It didn't Open: the 'resulthood' in Verbal Semantics]." *Keeryoo Kokugogaku* 14: 335-353.
- Pustejovsky, James. 1995. *The Generative Lexicon*. MIT Press: Cambridge, MA.
- Tsujimura, Natsuko. 2003. "Event Cancellation and Telicity." In *Japanese/Korean Linguistics* 12: 388-399.
- Vendler, Zeno. 1957. "Verb and Times" *The philosophical Review*, 66: 143-160.