

Two *By*-phrases in Japanese Passive*

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1. Introduction

Japanese has two *by*-phrases: a *by*-phrase marked with *-ni*, or *ni*-phrase, and another *by*-phrase marked with *-niyotte*, or *niyotte*-phrase. In many cases, a passive sentence can have either of these two *by*-phrases, as in (1).

- (1) Taro-ga Hanako-**ni/niyotte** kisos -are -ta
T-NOM H-NI/NIYOTTE sue -PASS -PST¹
'Taro was sued by Hanako.'

Let us call a passive sentence with *ni*-phrase "*ni*-passive" and a passive sentence with *niyotte*-phrase "*niyotte*-passive". These two passive constructions have an unexpected difference. As discussed in Inoue (1976) and Kuroda

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¹Abbreviations: ASP = aspect, COMP = complementizer, COP = copula, GEN = genitive, MOD = modal, NOM = nominative, PST = past, PRS = present, PASS = passive, Q = question marker, TOP = topic

2. An Analysis of the *By*-phrases

In this section, we present arguments for the analysis of these two *by*-phrases as presented in (3). First, we present preliminary evidence from previous studies that motivates the analysis. We then show that three predictions that the analysis makes are borne out with the results of three acceptability judgment experiments.

2.1. Preliminary Evidence

Several observations in previous studies suggest that *ni*-phrase and *niyotte*-phrase are different with respect to thematic licensing of their complements. First, it has been noted that *niyotte*-phrase is infelicitous with psychological predicates such as *aisuru* ‘love’ (Teramura 1982, Park and Whitman 2003):

- (4) Haru-no-umi-wa ooku-no-hito-ni/#niyotte ais
 Spring-GEN-sea-TOP many-GEN-people-NI/#NIYOTTE love
 -are -tei -ru
 -PASS -ASP -PRS
 ‘Spring Sea’ is loved by many people.’ (Park and Whitman 2003:310)

This observation suggests that the possible Θ -roles for complements are more restricted with *niyotte*-phrase than with *ni*-phrase. One way to account for this difference is to analyze that *niyotte*-phrase assigns its own Θ -role to its complement while the complement of *ni*-phrase inherits the external Θ -role of the passive sentence. Under such an analysis, the infelicitous status of (4) with *niyotte*-phrase can be accounted for as a case of mismatch between the Θ -role that *niyotte*-phrase assigns to its complement and the EXPERIENCER Θ -role with which *aisuru* ‘love’ usually co-occurs (e.g. by selecting *v* that provides an EXPERIENCER Θ -role). In fact, Goro (2006) argues that *niyotte*-phrase is capable of thematically licensing its complement whereas *ni*-phrase is not by showing that only *niyotte*-phrase is felicitous in nominal environment, as illustrated with (5a) and (5b):

- (5) a. teki-*niyotte*-no-kogeki b. *teki-*ni*-no-kogeki
 enemy-NIYOTTE-GEN-attack enemy-NI-GEN-attack
 ‘the enemy’s attack’ (‘the enemy’s attack’)

Goro suggests that (5b) is ungrammatical because that the complement of *ni*-phrase does not receive a Θ -role.²

² A potential alternative analysis of the ungrammaticality of (5b) is that *ni* in *ni*-phrase is a case marker. Since case markers cannot be ‘stacked’ in Japanese (e.g. Park and Whitman 2003), (5b) is ungrammatical. However, such an analysis would be at odds with the fact that

The morphological complexity of these two PPs also provides a motivation for the analysis of these two *by*-phrases under discussion. *Niyotte* can be analyzed as consisting of two parts, *ni*, which could have been either a case marker or a PP, and *yotte*, which is the gerundive form of a verb *yoru* ‘depend’ (Teramura 1982: 225). If *niyotte* is derived from a verb (a Θ -role licensor) and a PP (case assigner), it would not be surprising if it is capable of both structurally and thematically licensing its complement. In contrast, *ni* in *ni*-phrase is clearly mono-morphemic and a similar analysis would not apply.

In sum, the observations discussed in previous studies suggest that *niyotte*-phrase is capable of thematically licensing its complement, while *ni*-phrase does not have such an ability, as in (3). In what follows, I present arguments for this analysis from three acceptability judgment experiments.

2.2. Evidence from Acceptability Judgment Experiments

2.2.1. Experiment 1: Psychological Verbs and the Two *By*-phrases

Experiment 1 was conducted to find out whether Teramura’s observation about *niyotte*-phrase – that it is infelicitous with psychological predicates such as *aisuru* ‘love’ unlike *ni*-phrase – can be replicated in an experimental setting. Two psychological transitive verbs, *konomu* ‘like’ and *kirau* ‘dislike’, were presented in three different forms: (i) active, (ii) *ni*-passive, and (iii) *niyotte*-passive. Six different lexicalizations were used to create six different versions of each of these six experimental sentences. Examples of the two passive constructions with *kirau* ‘dislike’ are presented below:

(6) a. *ni*-passive:

Kotoshi-no-senkyo-no-keiko-to-shite-wa	wakai-kohosha-ga
This_year-GEN-election-GEN-trend-as-TOP	young-candidate-NOM
tohyosha-ni	kiraw -are -ta
voter-NI	dislike -PASS -PST

b. *niyotte*-passive:

Kotoshi-no-senkyo-no-keiko-to-shite-wa	wakai-kohosha-ga
This_year-GEN-election-GEN-trend-as-TOP	young-candidate-NOM
tohyosha-niyotte	kiraw -are -ta
voter-NIYOTTE	dislike -PASS -PST

‘In this year’s election, young candidates were disliked by voters.’

These six experimental sentences were visually presented with 44 fillers in pseudo-random order using an internet survey. 36 native speakers partici-

the standard diagnostic tests for separating PPs from case markers, such as quantifier float and pseudo-clefts, identify *ni* in *ni*-phrase as a PP (Sadakane and Koizumi 1995).

pated in this experiment and they were instructed to judge acceptability of the stimuli sentences with a 5-point scale (5 being ‘completely natural’ and 1 being ‘completely unnatural’). The results are shown in Figure 1 below.

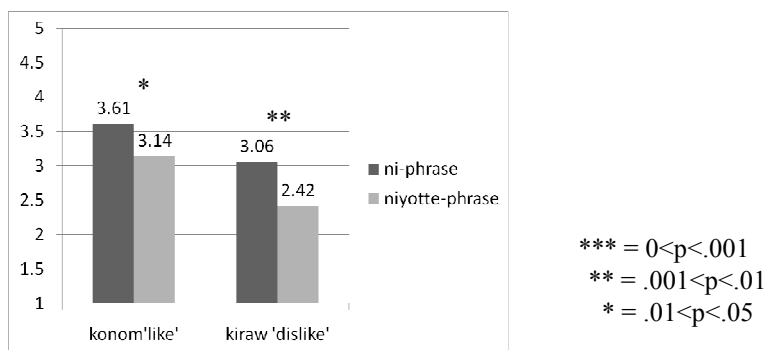


Figure 1: The two *By*-phrases and Transitive Psychological verbs

Since the results of an analysis of variance (ANOVA) indicated that both the *by*-phrases and the verbs were significant predictors of sentence acceptability (*by*-phrases: $F(1, 35) = 12.0968$, $p < .001$, verbs: $F(1, 35) = 15.9980$, $p < .001$), the results with the two verbs are presented separately in Figure 1. As can be seen, the mean acceptability of the *ni*-passive sentences was higher than the mean acceptability of the *niyotte*-passive sentences with both verbs. The differences were significant with both verbs according to both one-tailed paired *t*-test and one-tailed Wilcoxon signed rank test (*konomu* ‘like’: $t(35) = 1.7974$, $p = .040$, $v(35) = 192.5$, $p = .047$; *kirau* ‘dislike’: $t(35) = 2.9203$, $p = .003$, $v(35) = 190$, $p = .0042$). Thus, the results of Experiment 1 confirmed that *ni*-passive is more compatible with psychological verbs than *niyotte*-passive, as claimed in Teramura (1982).

2.2.2. Experiment 2: Intransitive Verbs and the Two *By*-phrases

Experiment 2 examined compatibility between the two *by*-phrases and intransitive verbs. If *niyotte*-phrase is an independent Θ -role licenser, it is predicted to co-occur with an intransitive verb as long as they are semantically compatible. On the other hand, if *ni*-phrase must rely on another predicate to thematically license its complement, *ni*-phrase would not be licensed with an intransitive verb, which presumably has no ‘extra’ Θ -role. Two sets of intransitive verbs were selected for this experiment: (i) intransitive forms of two causative transitive verbs (*kowareru* ‘break_{INTR}’ and *okoru* ‘happen’) and (ii) intransitive forms of two agentive transitive verbs (*ureru* ‘sell_{INTR}’ and *kimaru* ‘decide_{INTR}’). The assumption behind the selection of these intransitive verbs was that they are semantically compatible with having an

external argument (CAUSER for the former and AGENT for the latter) introduced by the *by*-phrases. These four intransitive verbs were combined with *ni*-phrase and *niyotte*-phrase, which in turn had either an animate (intended AGENT) or inanimate (intended CAUSER) complement. Examples of these four patterns were provided below with *okiru* ‘happen’:

(7) a. *niyotte*-phrase+inanimate complement:

Bakuhatsujiko-ga kenkyusha-no-huchuu-**niyotte**
 explosion-NOM researcher-GEN-carelessness-NIYOTTE
 oki -ta
 happen -PST

b. *ni*-phrase+inanimate complement:

Bakuhatsujiko-ga kenkyusha-no-huchuu-**ni** oki -ta
 explosion-NOM researcher-GEN-carelessness-NI happen -PST
 ‘An explosion happened because of a researcher’s carelessness.’

c. *niyotte*-phrase+animate complement:

Ookaji-ga kinjo-no-kodomo-**niyotte** oki -ta
 fire-NOM neighbor-GEN-child-NIYOTTE happen -PST

d. *ni*-phrase+animate complement:

Ookaji-ga kinjo-no-kodomo-**ni** oki -ta
 fire-NOM neighbor-GEN-child-NI happen -PST
 ‘The fire happened because of a child in the neighborhood.’

Six different lexicalizations of eight experimental sentences were created and visually presented with 66 fillers in pseudo-random order using an internet survey. A different group of 36 native speakers participated in Experiment 2. As in Experiment 1, they were instructed to judge each of the stimuli sentences on a 5-point scale. The results are shown in Figure 2.

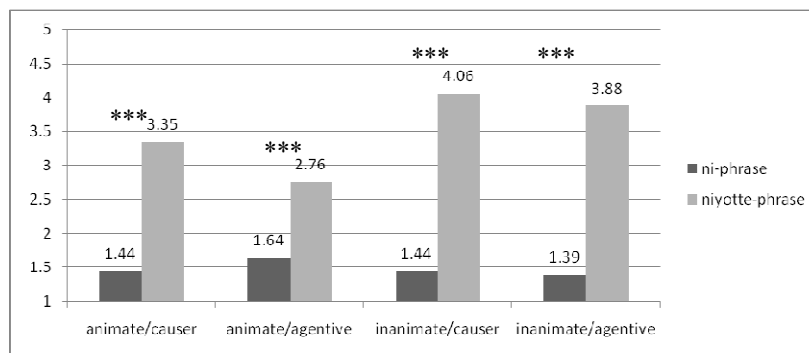


Figure 2: The Two *By*-phrases and Four Intransitive Verbs

As can be seen in Figure 3, the sentence acceptability of all the combinations with an intransitive verb and *niyotte*-phrase was higher than the sentence acceptability of their counterpart with *ni*-phrase. The differences were all statistically significant according to both two-tailed paired *t*-test (animate/causer: $t(71)=10.4862$, $p < .001$, animate/agent: $t(65) = 4.5281$, $p < .001$, inanimate/causer: $t(71)=16.0611$, $p < .001$, inanimate/agent: $t(65) = 12.3211$, $p < .001$) and two-tailed Wilcoxon signed rank test (animate/causer: $v(71)=63.5$, $p < .001$, animate/agent: $v(65) = 201.5$, $p < .001$, inanimate/causer: $v(71)= 0$, $p < .001$, inanimate/agent: $v(65) = 37$, $p < .001$).

Thus, our predictions were borne out with the results of Experiment 2: only *niyotte*-passive can be licensed when there is no ‘extra’ Θ -role. Furthermore, while the animacy of the complement did not make differences in the acceptability of the sentences with *ni*-phrase, the sentences with *niyotte*-phrase were significantly more acceptable with an inanimate complement than with an animate complement (causer verbs: $t(71) = 3.6851$, $p < .001$, $v(71)= 837$, $p < .001$, agent verbs: $t(65) = 4.1911$, $p < .001$, $v(65) = 1055$, $p < .001$). This suggests that the Θ -role that *niyotte* assigns to its complement is CAUSER, since inanimate objects are incompatible with being AGENT.

2.2.3. Experiment 3: Agent-oriented Adverbs and the Two *By*-phrases

Experiment 3 examined compatibility between the two *by*-phrases and an agent-oriented adverb. Under the proposed analysis, *niyotte* assigns CAUSER to its complement; the external argument of *niyotte*-passive is always CAUSER no matter what the passivized verb is. In contrast, the interpretation of the complement of *ni*-phrase depends on the passivized verb. If the passivized verb is an agentive verb, the complement of *ni*-phrase receives an AGENT role. If this is the case, *ni*-passive with an agentive verb is predicated to be more compatible with an agent-oriented adverb than *niyotte*-passive with the same agentive verb. Six agentive transitive verbs (*settokusuru* ‘persuade’, *satosu* ‘advise’, *kyoikusuru* ‘teach’, *settaisuru* ‘entertain’, *tanomu* ‘ask’, *kanyusuru* ‘solicit’) were selected and they were presented with an agent-oriented adverb *isshokenmei* ‘earnestly’ in three different structures: (i) active, (ii) *ni*-passive and (iii) *niyotte*-passive. Examples of the two passive constructions with *settokusuru* ‘persuade’ are presented below:

(8) a. *ni*-passive:

Kotoshi-de	intaisuru-yooni	beteran-no-senshu-ga		
This_year-in	retire-COMP	seasoned_athlete	-NOM	
shinpaisho-no-tsuma-ni	<i>isshokenmei</i>	settokus	-are	-ta
anxious-GEN-wife-NI	earnestly	persuade	-PASS	-PST

‘The seasoned athlete was persuaded very hard to retire this year by his anxious wife.’

b. *niyotte*-passive:

Kotoshi-de	intaisuru-yooni	beteran-no-senshu-ga
This_year-in	retire-COMP	seasoned_athlete -NOM
shinpaisho-no-tsuma- niyotte		<i>isshokenmei</i>
anxious-GEN-wife- NIYOTTE		earnestly
settokus -are -ta		
persuade -PASS -PST		

‘The seasoned athlete was persuaded very hard to retire this year by his anxious wife.’

Six different lexicalizations of three experimental sentences were created with each of the six transitive verbs. Three experimental sentences with different transitive verbs were visually presented with 47 fillers in pseudo-random order using an internet survey. The participants were the same as Experiment 1 (n=36). The results are presented in Figure 3.

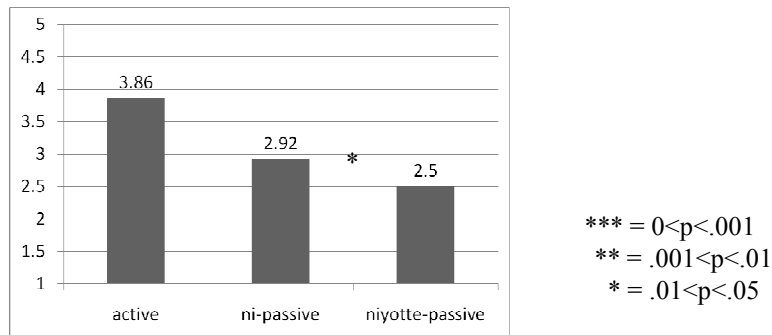


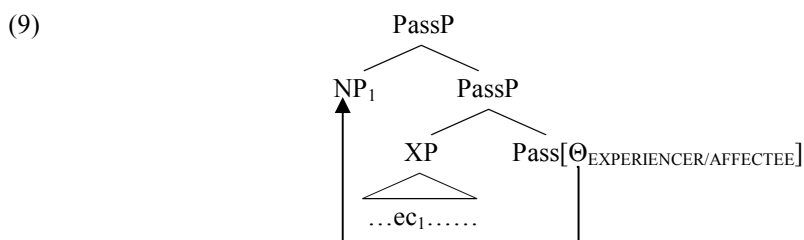
Figure 3: The Two *By*-Phrases and an Agent-oriented adverb

Since the results of ANOVA indicated that the embedded verbs were not significant predictors of the sentence acceptability among the passive sentences, the results with all six verbs are presented together in Figure 3. As expected, the mean acceptability of the active sentences (3.86, sd = 1.2) was higher than both *ni*-passive (2.92, sd = 1.34) and *niyotte*-passive (2.5, sd = 1.4) sentences. More importantly, the results of one-tailed paired *t*-test and Wilcoxon signed rank test both showed that there was a significant difference between the mean acceptability of the *ni*-passive sentences and the *niyotte*-passive sentences with the agent-oriented adverb, with the mean acceptability of the *ni*-passive sentences being higher ($t(35) = 2.0761$, $p = .045$, $v(35) = 203$, $p = .042$). Thus, the results of Experiment 3 confirmed the prediction that *ni*-passive is more compatible with an agent-oriented adverb than *niyotte*-passive is.

Therefore, the results of the three experiments all support the proposed analysis of the two *by*-phrases.

3. Against the Θ -role Analysis of the Affected Interpretation

In this section, I present arguments against the analysis of the affected interpretation of *ni*-passive subjects as a Θ -role (Kitagawa and Kuroda 1991, Hoshi 1991, 1994, 1999, Park and Whiteman 2003, and Goro 2006). While details of these individual analyses differ greatly, the common assumption behind them is that the passive morpheme in *ni*-passive assigns a Θ -role to its subject, whether it is EXPERIENCER (Hoshi 1991, 1994, 1999) or AFFECTEE (Kitagawa and Kuroda 1991, Goro 2006). *Ni*-passive subjects are also obligatorily co-indexed with an empty category in the object position, creating the ‘passive-like’ interpretation of *ni*-passive sentences, as in (9).



In what follows, I argue that the affected interpretation of *ni*-passive subjects cannot be analyzed as a Θ -role, because it can ‘disappear’ in certain syntactic environments.

3.1. *Teiru* Constructions

The affected interpretation is missing from *ni*-passive subjects when *ni*-passive is in aspectual constructions with a verbal complex *teiru*, or *teiru* constructions (e.g. Ogihara 1998). To the best of my knowledge, the only study that explicitly makes this observation is Iwasaki (2002). Iwasaki calls *ni*-passive in *teiru* constructions, such as (10), ‘*stative passives*’ and notes that their subjects lack the affected interpretation (134).

- (10) a. Kono-hon-wa wakamono-ni yoku yom -are
 This-book-TOP young_people-NI well read -PASS
 -tei -ru
 -ASP -PRS
 ‘This book is read by many young people.’ (Iwasaki 2002; 135, (31b))
- b. Michiko-sensei-wa seeto-ni ais -are -tei -ru
 M-teacher-TOP student-NI love -PASS -ASP -PRS
 ‘Ms. Michiko is loved by her pupils.’ (Iwasaki 2002; 137, (34b))

Examples that foreshadow this observation had been discussed in studies that predate Iwasaki (2002). Inoue (1976) and Kuroda (1979, 1992) discuss examples of *ni*-passive that lack the affected interpretation, such as (11):

- (11) a. Kono-ie-wa itabei-ni kakom -are -tei -ru
 This-house-TOP fence-NI surround-PASS -ASP -PRS
 ‘This house is surrounded by a fence’. (Inoue 1976; 84, (44))
 b. Sono-hako-wa shiroi-nuno-ni oow are -tei -ta
 that-box-TOP while-cloth-NI cover -PASS -ASP -PST
 ‘That box was covered in a while cloth.’ (Inoue 1976; 85, (48))

Examples from Teramura (1982) also show that, while path arguments usually do not make a felicitous *ni*-passive because they are incompatible with the affected interpretation (12a), they make a felicitous *ni*-passive when the *ni*-passive is in *teiru* constructions (12b):

- (12) a. #Kono-michi-wa maiasa Taro-ni aruk -are -ru
 This-path-TOP every_morning T-NI walk -PASS -PRS
 (‘This path is walked by Taro every morning.’)
 (Teramura 1982: 229, (43’))
 b. Kono-michi-wa ooku-no-hito-ni aruk -are -tei
 This-path-TOP many-GEN-people-NI walk -PASS -ASP
 -ru -yoo -da
 -PRS -seem -COP
 ‘This path seemed to have been being walked by many people.’
 (Shibatani 1978, cited in Teramura 1982:229, (46))

Therefore, the affected interpretation of *ni*-passive subjects is systematically missing when *ni*-passive is in *teiru* constructions.

3.2. Inside Relative Clauses

Another syntactic environment where the affected interpretation of *ni*-passive subjects disappears is inside relative clauses. The following (13a) and (14a) show that *ni*-passive sentences with verbs of creation are often infelicitous because their subjects are incompatible with the affected interpretation (Teramura 1982: 223). However, such *ni*-passive sentences are acceptable if they are inside relative clauses, as shown by naturally occurring examples (13b) and (14b).

- (13) a. #Kono-shiro-wa toodai-zuiichi-no-daiku-ni sekkeis -are -ta
 This-castle-TOP that_era-best-carpenter-NI design -PASS -PST
 (‘This castle was designed by the best architect of the day.’)

b. [[Puraza-to-onaji-kenchikuka-ni **sekkeis** -are -ta]
 [[Plaza-COM-same-architect-NI design -PASS -PST]
 dakotahaousu]-mo sono-hitotsu-da³
 Dakota House]-also that-one-COP
 ‘Dakota House, which was designed by the same architect who
 designed the Plaza, is also one of them.’

- (14)a. #Sengetsu kyodai-na-hekiga-ga gakuseitachi-ni **kak**
 Last_month large-COP-mural-NOM students-NI draw
 -are -ta
 -PASS -PST
 (‘Last month, a large mural was drawn by the students.’)
- b. [[Ooku-no-gaka-ni **kak** -are -ta] Saigo-no-bansan]
 [[many-GEN-painter-NI draw -PASS -PST] Last-GEN-Supper]
 -no-nakademo mottomo-hurui-mono-to iw -are...⁴
 -GEN-among most-old-one-COMP say -PASS
 ‘It is considered as the oldest “Last Supper”, which was drawn by
 many painters.’

Similarly, *ni*-passive sentences with path arguments can also be felicitous inside a relative clause (cf. 12a):

- (15) [[Mukashi-kara jimoto-no-hitobito-ni **aruk** -are -ta]
 [[ancient-from local-GEN-people-NI walk -PASS -PST]
 michi] nano-daroo-ka⁵
 path] COP-MOD-Q
 ‘It is probably a path that has been walked by the local people since
 ancient times.’

Thus, *ni*-passive subjects lack the affected interpretation inside relative clauses as well.

The fact that the affected interpretation is absent in these two syntactic environments is problematic to the Θ -assignment analysis because Θ -roles are not expected to ‘disappear’ unless under valence changing operations. Since *teiru* constructions and relative clauses are not valence changing operations, we must conclude that the affected interpretation is not a Θ -role.

³ <http://appleworld.com>

⁴ www.bs-i.co.jp

⁵ <http://ntanisan.hp.infoseek.co.jp>

4. Conclusion

In this paper, we discussed the two factors that differentiate *ni*-passive and *niyotte*-passive: the form of *by*-phrases and the interpretation of subjects. As an important step toward accounting for the relation between these two seemingly unrelated factors, we reexamined these two factors and argued that (i) these two *by*-phrases differ in their ability in thematically licensing their complement and (ii) the standard analysis of the affected interpretation of *ni*-passive as a Θ -role is untenable.

These two conclusions suggest that, in order to account for the relation between the choice of *by*-phrase and the interpretation of subjects of Japanese passive sentences, we should reconsider what is responsible for creating the affected interpretation of *ni*-passive subjects and that we should explore how the difference between these two *by*-phrases may be linked to the presence and absence of the affected interpretation in passive subjects.

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