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 niotte-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
while the subject of *ni*-passive must be compatible with an interpretation that it is ‘affected’ in the event that the sentence denotes, such a restriction is not imposed on the subject of *niyotte*-passive. Thus, ‘an opening (of an event)’ is infelicitous with *ni*-passive because it is incompatible with the affected reading, while it is felicitous with *niyotte*-passive:

(2) Kaikai-ga gicho-#ni/niyotte sengens -are -ta opening-NOM chairman-#Ni/NIYOTTE announce -PASS -PST 'The opening (of the meeting) was announced by the chairman.'

The question is why these two seemingly unrelated factors, the choice of *by*-phrase and presence/absence of an interpretable restriction of passive subjects, are correlated with each other. In order to account for the correlation between these two factors, it is important to understand each of these two factors properly. This study attempts to do just that. First, we propose an analysis of these two *by*-phrases. Building on observations in Teremura (1982) and Goro (2006), we argue that these two *by*-phrases differ in their ability in thematically licensing their complement. While *niyotte*-phrase assigns a Θ-role (*CAUSER*) to its complement, *ni*-phrase has no Θ-role and must rely on another predicate to provide a Θ-role to its complement. Thus, they have the following lexical entries.


We present novel experimental evidence that supports this analysis.

Second, we argue 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, Goro 2006) by showing that the affected interpretation of *ni*-passive subjects systematically disappears in certain syntactic contexts. These conclusions suggest that we should (i) reconsider what creates the affected interpretation of *ni*-passive subjects and (ii) explore how the difference between these two *by*-phrases may be linked to the affected interpretation in *ni*-passive and lack thereof in *niyotte*-passive.

Section 2 introduces observations from previous studies that motivate the analysis of these two *by*-phrases as in (3) and presents the results of the three acceptability judgment experiments that support it. Section 3 introduces the Θ-role assignment analysis of the affected interpretation of *ni*-passive subjects and provides evidence against it. In particular, the affected interpretation of *ni*-passive subjects is shown to ‘disappear’ in two syntactic environments: (i) in aspectual constructions involving *teiru* (*teiru* constructions) and (ii) inside relative clauses. Section 4 briefly discusses implications of these conclusions and concludes the paper.
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 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-nyotte-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, *konomo ‘like’* and *kira ‘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 *kira ‘dislike’* are presented below:

(6)  

a. *ni*-passive:

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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
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b. *niyotte*-passive:

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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-
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.

![Graph showing acceptability ratings for by-phrases and ni-phrase]

**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 (*konmu
‘like’*: $t(35) = 1.7974$, $p = .040$, $\nu(35) = 192.5$, $p = .047$; *kirau ‘dislike’*: $t$
(35)$ = 2.9203$, $p = .003$, $\nu(35) = 190$, $p = .0042$). 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 $\Theta$-role licensor, 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’ $\Theta$-role. Two sets
of intransitive verbs were selected for this experiment: (i) intransitive forms
of two causative transitive verbs (*kowareru ‘break$_{STR}$’ and *okoru ‘happen’)
and (ii) intransitive forms of two agentive transitive verbs (*ureru ‘sell$_{STR}$’
and *kimaru ‘decide$_{STR}$’). 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-huchuuiniyotte
    explosion-NOM researcher-GEN-carelessness-NIYOTTE
    oki -ta
    happen -PST

b. ni-phrase+inanimate complement:
    Bakuhatsujiko-ga kenkyusha-no-huchuusi
    explosion-NOM researcher-GEN-carelessness-NI
    oki -ta
    happen -PST
    ‘An explosion happened because of a researcher’s carelessness.’

c. niyotte-phrase+animate complement:
    Ookaji-ga kinjo-no-kodomoniyotte
    fire-NOM neighbor-GEN-child-NIYOTTE
    oki -ta
    happen -PST

d. ni-phrase+animate complement:
    Ookaji-ga kinjo-no-kodomo
    fire-NOM neighbor-GEN-child
    oki -ta
    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: χ(71)=63.5, p < .001, animate/agent: χ(65) = 201.5, p < .001, inanimate/causer: χ(71)= 0, p <.001, inanimate/agent: χ(65) = 37, 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
shinpai-cho-no-tsuma-ni isshokenmei 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.’
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 pseudorandom order using an internet survey. The participants were the same as Experiment 1 (n=36). The results are presented in Figure 3.

![Graph showing the acceptability of active, ni-passive, and niyotte-passive sentences](image)

**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).

(9)

\[
\begin{array}{c}
\text{PassP} \\
\text{NP}_1 \\
\text{XP} \\
\text{Pass}[\Theta_{\text{EXPERIENCER/AFFECTEE}}] \\
... e_c, ...
\end{array}
\]

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 aspecual constructions with a verbal complex teiru, or teiru constrictions (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 -PASSE
-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 -PASSE -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 walked by many people.’

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-zuichi-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-da\(^3\) 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
-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-nakademono 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, \textit{ni} passive sentences with path arguments can also be felicitous inside a relative clause (cf. 12a):

path] COP-MOD-Q

‘It is probably a path that has been walked by the local people since ancient times.’

Thus, \textit{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 \(\Theta\)-assignment analysis because \(\Theta\)-roles are not expected to ‘disappear’ unless under valence changing operations. Since \textit{teiru} constructions and relative clauses are not valence changing operations, we must conclude that the affected interpretation is not a \(\Theta\)-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.

References


