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ON THE ACQUISITION OF JAPANESE PASSIVES BY ENGLISH SPEAKERS

By

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A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHYLOSOPHY

Department of Linguistics and Germanic, Slavic, Asian, and African Languages

2002

ABSTRACT

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This study investigates knowledge of Japanese passives that English-speaking learners develop and it addresses the questions of what aspects of Japanese passives pose learning difficulties for them, and why. Pedagogically, it seems essential to understand what learners know and do not know about passives to facilitate their learning. Theoretically, it is of significance to explore whether or not they are able to attain knowledge of the *ni* passive versus the *ni yotte* passive contrasts, which underlie overarching characterizations of Japanese passives.

Following Hoshi (1994a; 1999) and Kuroda's (1979) analysis of Japanese passives, the present study classifies them syntactically into three types, the *ni* direct passive, the *ni* indirect passive, and the *ni yotte* passive; semantically, they are grouped into two classes, the *ni* passive (including both direct and indirect passives) and the *ni yotte* passive. The subjects of the present study include 81 English-speaking learners whose proficiency levels range from intermediate to low and highly advanced, as well as 52 native speakers of Japanese who constitute two distinct groups in terms of the presence or absence of linguistic training received as educational background. The data consist of five-point scale grammaticality judgments of 84 test sentences, 62 of which pertain to either syntactic or semantic properties of Japanese passives and the remaining 22 distractor sentences.

The study first shows that notwithstanding highly delicate semantic differences between closely related passive sentences, the native speaker group without linguistic training made grammaticality judgments of the test sentences in nearly full agreement with the theory predictions. Yet, somewhat surprisingly, the native speaker group with such training only agreed with the predictions approximately 70% at best.

The results of the analysis of the non-native speaker subjects' data show the following: 1) Syntactically, the *ni* direct passive was learned best, followed by the *ni yotte* passive; the *ni* indirect passive was most difficult to learn; 2) At certain stage(s) of learning passives, learners appear to have heavily relied on the *ni*-marked θ-role transmitted phrase to judge the grammaticality of passive sentences; 3) The incorrect analysis of the *ni* indirect passive as involving passivization in its lower clause seems to have persisted even after learners attained a highly advanced proficiency level in Japanese; 4) Semantically, English-speaking learners were capable of learning the *ni* passive versus *ni yotte* passive cardinal contrasts, including the ones in which input indicating the grammaticality contrasts between the *ni* direct and the *ni yotte* passives appears not to be readily available to them; and 5) The only semantic area that even highly advanced learners failed to fully acquire involves knowledge that the passive verb *rare* of the *ni* direct passive may intrinsically invoke an adversative connotation. On the basis of these findings, the (highly advanced) non-native speaker subjects' knowledge representation of the Japanese passive morpheme *rare* is characterized as almost identical to that held by native speakers except for the optionality analysis of the *ni* indirect passive. Finally, pedagogical implications of these findings are considered.

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For my wife,

Katherine

ACKNOWLEDGMENTS

I would like to express my deep and sincere gratitude to the following people for their help with this dissertation. First and foremost, I would like to thank my major advisor, Dennis Preston. His encouragement, support, and insightful academic advice enabled me to complete this work. He was an exemplary academic advisor in all respects throughout my graduate studies. I would also like to thank the other members of my thesis committee, Susan Gass, Alan Munn, and Yen-Hwei Lin. Their comments and criticisms were invaluable in helping me sharpen data analyses and in improving the clarity of the work. I am grateful to Patricia Lunn for her comments, too.

I am especially indebted to those people both in the US and Japan who were so kind and generous as to cooperate me with a yearlong data collection effort. I would like to express my heartfelt thanks to the following people who solicited volunteers for the non-native speakers' data collection: Kumiko Aso, Shoko Emori, Emi Fujiwara, Leopold Hanami, Tetsuo Harada, Susan Kubota, David Mills, Manabu Mizobe, Hiroyuki Oshita, Ken'ichi Ujie, Suwako Watanabe; special thanks are due to Mari Noda, who went so far as to ask her departmental colleagues for cooperation. Sincere gratitude also goes to the following people who helped me with the native speakers' data collection: Yasuaki Abe, Osamu Hashimoto, Kiyoshi Ishikawa, Masaru Nakamura, Yukio Otsu, Izumi Saita, Takashi Sugimoto, and Kensaku Yoshida. Needless to say, wholehearted thanks are due to those people in the US and Japan who generously participated in the research by filling out a rather long questionnaire: the non-native speaker subjects were students from the George Washington University, the Ohio State University, the Ohio University, Portland

State University, Truman State University, the University of Florida, the University of Oregon, the University of Michigan at Ann Arbor, the University of Pittsburgh, the University of Texas at Austin, Washington and Lee University, and Washington University; and the native speaker subjects were students from Hosei University, Keio University, Nagoya Univeristy, Nanzan University, Osaka University of Foreign Studies, Seikei University, Sophia University, Tohoku University, the University of Tokyo, and the University of Tsukuba. I am also grateful to Hyun-Joo Kim for her assistance in statistical analyses, and to Mimi Kato, Lily Lok, and Luke Walczewski for their help with data coding and entry.

I am thankful to my family, particularly my parents, Tatsuo and Teiko Hara, for their love and support throughout my graduate work. Special thanks go to my sister, Tomoko Hara, who helped me immensely with the data collection effort in Japan. Finally, for her personal and academic support as well as for editing my work, I would like to thank my wife, Katherine, to whom this thesis is dedicated.

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INTRODUCTION

This study investigates knowledge of Japanese passives that English-speaking learners develop and addresses the question of what aspects of Japanese passives pose learning difficulties for them, and why. While it has been long observed that learners of Japanese, particularly English-speaking learners, have great difficulty learning Japanese passives, second language acquisition (SLA) research has scarcely examined learners' acquisition of them. In order to facilitate learning, it is surely important to understand what English-speaking learners know and do not know about passives. Theoretically, it is of significance to explore whether or not they are able to attain knowledge of the *ni* passive versus the *ni yotte* passive contrasts which underlie overarching characterizations of Japanese passives. The attainment of this knowledge is critical particularly because, given that input for certain (especially semantic) properties of Japanese passives appears not to be readily available to learners, deduction from the cardinal distinction between the *ni* and *ni yotte* passives seems to be the only path through which to learn such properties. Toward these ends, following Hoshi (1994a; 1999) and Kuroda's (1979) analysis of Japanese passives, the present study examines grammaticality judgments that English-speaking learners gave to various types of passive sentences in order to explore their knowledge of not only syntactic but also semantic properties of Japanese passives.

Chapter 1 first provides the theoretical bases of the present study. Specifically, it presents Hoshi (1994; 1999) and Kuroda's (1979) analysis of Japanese passives. A typical classification of Japanese passives holds that there are two types of passives, i.e., the *ni* direct passive and the *ni* indirect passive, and that the *ni yotte* passive is

characterized as a simple stylistic variant of the former type of passive. Hoshi and Kuroda, however, proposed the following analysis of Japanese passives: Syntactically, they may be classified into three types, the *ni* direct passive, the *ni* indirect passive, and the *ni yotte* passive, on the basis of types of syntactic operations involved in each of the three, i.e., the presence or absence of passivization processes and of 'affectee' θ-role assignment. On the other hand, they may be grouped semantically into two classes, the *ni* passive (including both direct and indirect passives above) and the *ni yotte* passive, depending on whether or not each type of passive carries an 'affective' connotation.

This chapter then provides empirical background on the following issues central to the present study: 1) review of previous studies on the acquisition of Japanese passives in SLA research, showing that the previous studies found that learners of Japanese had great difficulty using passive sentences in various writing production tasks. Due to the nature of the tasks employed in these studies, however, they failed to address in detail the question of why Japanese passives were difficult for their subject learners; and 2) a report on how native speakers (NSs) of Japanese perceive an adversative connotation in various types of *ni* passive sentences, demonstrating that they read the adversative connotation predominantly in the *ni* indirect passive and somewhat less in the *ni* direct passive irrespective of connotation types of verbs used in them and the passive subject animacy versus inanimacy contrast. Then, the following two issues concerning methodology are considered: 1) differences in grammaticality judgment performances between NSs with and without linguistic training; and 2) the validity and reliability for use of grammaticality judgment in SLA research. This review demonstrates that second language (L2) learners' grammaticality judgments can provide valid and reliable data for

L2 research when we exercise care in experimental design and caution in analysis of data.

In chapter 2, research questions are formulated both in syntactic and semantic terms. Syntactically, the present study first investigates which type of passive is learned better than the other(s) and then looks into what is difficult for English-speaking learners in light of passivization operations involved in the three types of passives: the *ni* direct, the *ni* indirect, and the *ni yotte* passive. Specifically, the aim is to explore their knowledge of the presence or absence of external θ-role suppression and accusative case absorption as effected in each type of passive by means of examining their knowledge of case marking phenomena resulting from the passivization processes. In semantic areas, the present study investigates English-speaking learners' knowledge of the *ni* passive versus the *ni yotte* passive contrasts which arise from their passive subject status difference, i.e., 'affectee' subject versus non-'affectee' subject, respectively. Particularly, the aim is to probe their knowledge of semantic contrasts arising in the following conditions: 1) an adversative reading is available, indeed required in certain contexts, for the *ni* (direct and indirect) passive while it is unavailable for the *ni yotte* passive; 2) grammaticality contrasts result in the *ni* direct passive with an inanimate passive subject depending on its perfective versus non-perfective readings , whereas no such contrast ensues in the *ni yotte* passive; and 3) the *ni* direct passive is suitable to express personally involved situations whereas the *ni yotte* passive is appropriate for neutral, objective descriptions.

Chapter 3 presents the research design of the present study. The subjects of the present study include 81 English-speaking learners whose proficiency levels range from

intermediate to low and highly advanced, as well as 52 NSs of Japanese who constitute two distinctive groups in terms of the presence or absence of linguistic training received as educational background. The data consist of five-point scale grammaticality judgments of 84 test sentences, 62 of which pertain to either syntactic or semantic properties of Japanese passives as described above (32 grammatical and 30 ungrammatical) together with 22 distractor sentences (12 grammatical and 10 ungrammatical).

Since Kuroda's (1979) analysis of Japanese passives hinges on highly subtle semantic differences in closely related passive sentences, it is imperative to first demonstrate that ordinary NSs of Japanese would indeed judge the grammaticality of passive sentences differing in semantic nuances as his theory predicts. In view of judgments of such subtlety, it might be advisable to take into consideration the possibility of grammaticality judgment differences between NSs with linguistic training and those without it. There are two conflicting views in the literature on the effects of linguistic training on NS grammaticality judgment performance: one holds that linguistic training makes a native speaker who has received it capable of recognizing grammatical nuances which may go unnoticed by a native speaker who has not, whereas the other view states that a native speaker with linguistic training develops an idiosyncratic sense of grammaticality only remotely resembling that held by a native speaker without such training.

Chapter 4 presents analyses of the grammaticality judgment data (both NSs' and English-speaking learners'). Chapter 5 then offers interpretations and considerations of implications of the findings obtained in the previous chapter. The present study first

shows that notwithstanding highly delicate semantic differences between closely related passive sentences under investigation, the NS group without linguistic training made grammaticality judgments of the test sentences (both syntactic and semantic) in nearly full agreement with Hoshi (1994; 1999) and Kuroda's (1979) predictions. Yet, somewhat surprisingly, the NS group with such training only agreed with the predictions approximately 70% at best. Thus, in judgment of the passive sentences in question, these two groups behaved quite differently, e.g., with the former group performing in favor of the theory predictions.

The results of the analysis of the learner subjects' data provide the information to unravel how Japanese passives were represented in English-speaking learners' knowledge and thus identify what aspects of passives posed learning difficulties for them, and why. Furthermore, the findings evince that they learners able to attain knowledge of the critical semantic contrasts between the *ni* passive and the *ni yotte* passive. Specific findings include the following: 1) Syntactically, the *ni* direct passive was learned best, followed by the *ni yotte* passive; the *ni* indirect passive was most difficult to learn; 2) At certain stage(s) of learning passives, learners appear to have heavily relied on the *ni*-marked θ-role transmitted phrase to judge the grammaticality of passive sentences, as in first language acquisition (FLA) (Fox & Grodzinsky, 1998; Sano, Endo, & Yamakoshi, 2001); 3) The incorrect analysis of the *ni* indirect passive as involving passivization in its lower clause seems to have persisted even after learners attained a highly advanced proficiency in the target language; 4) Semantically, English-speaking learners were capable of learning the *ni* versus *ni yotte* passive contrasts as set forth in the above depicted conditions, including the ones in which input indicating the grammaticality

contrasts between the *ni* direct and the *ni yotte* passives appears to be unavailable to them, i.e., the perfective versus non-perfective reading contrasts. (Not until they reached a highly advanced proficiency level, however, did they achieve knowledge of all these contrasts); and 5) The only semantic knowledge that even highly advanced learners failed to fully acquire involves recognition of the incompatibility between the *ni yotte* passive and an adversative reading. In view of the important role the *ni* phrase apparently plays in semantic interpretations, this implies that learners had serious difficulty learning that the passive verb *rare* of the *ni* direct passive may intrinsically invoke an adversative connotation.

Finally, Chapter 6 summarizes the present study and then considers pedagogical implications of its findings. Japanese passives are indeed very difficult to learn, not only in terms of their use as observed in the literature, but also in acquiring knowledge of their various intricate properties; the intermediate learners' grammaticality judgment data indicate their slight knowledge of Japanese passives. Yet the highly advanced learners' judgment data show that they were able to learn the syntactic operations involved in three types of passives, as well as the vital 'affectee' versus non-'affectee' subject contrast between the *ni* and *ni yotte* passives, as they became more proficient in the target language. There are, however, two exceptions which seem to have escaped their learning: 1) that the *ni* indirect passive does not involve syntactic passivization; and 2) that the *ni* direct passive may intrinsically invoke adversity. On the basis of these findings, the (highly advanced) NNS subjects' knowledge representation of the Japanese passive morpheme *rare* is characterized as almost identical to that held by NSs with the

exception of NNS subjects' analysis of the *ni* indirect passive as involving passivization processes with optional accusative case absorption.

Finally, pedagogical implications are as follows: it is important to explore ways to help English-speaking learners to learn these syntactic and semantic properties of passives. It is also imperative to find out how to assist them in learning those two areas that even highly advanced learners failed to learn.

CHAPTER 1

THEORETICAL AND EMPIRICAL BACKGROUND

1.1. Introduction

This chapter provides both the theoretical and empirical bases of the present study. First, an analysis of Japanese passives, adopted in the present study, is presented. Specifically, after typically observed characterizations of them are reviewed, a more detailed semantic examination of them is given. Then, the syntactic analysis consistent with their semantic properties is summarized. Second, empirical background on issues central to the present study is provided. To begin with, previous studies on the acquisition of Japanese passives in SLA research are reviewed, followed by a report on how NSs of Japanese perceive them in light of adversativeness. Then, the following two issues concerning methodology are considered: 1) differences in grammaticality judgment performances between linguists and non-linguists; and 2) the validity and reliability of use of grammaticality judgments in SLA research.

1.2. Characterizations of Japanese passives

Japanese passives may be classified into three types: the *ni* direct passive, the *ni* indirect passive, and the *ni yotte* passive. Typical characterizations of these three types of Japanese passives are illustrated as follows.

First of all, many Japanese passive sentences seem structurally parallel to their English counterparts. Specifically, the object of the active sentence (1a) below appears as the subject of the corresponding passive sentence (1b) as given below:

(1) a. sensee-ga John-o sikat-ta
teacher-NOM -ACC scold-Pst
'the teacher scolded John'

b. John-ga sensee-ni sikar-are-ta.
-NOM -by scold-Pass-Pst
'John was scolded by the teacher'[1]

Following Howard & Niyekawa-Howard (1976), this apparent English passive-like type of the Japanese passive is referred to as the 'direct' passive.

There is, however, another kind of Japanese passive which demonstrates a striking departure from the English one. For one thing, this second type of Japanese passive may contain one more noun phrase (NP) than its closest active counterpart. Stated differently, the subject of this type of passive does not bear any apparent grammatical relation with its closest active counterpart. Unlike the paired active-passive sentences of (1) above, there is no active sentence directly corresponding to either of the passive examples of (2a) and (2c) below. (The closest active counterparts to (2a) and (2c) are given in (2b) and (2d), respectively.) The additional NP represents the referent adversely affected by the action or event expressed in the remainder of the sentence (Howard & Niyekawa-Howard, 1976) as shown below:

(2) a. John-ga sensee-ni kodomo-o sikar-are-ta
-NOM teacher-by child-ACC scold-Pass-Pst
'John was adversely affected by the teacher's scolding his child'

b. sensee-ga kodomo-o sikat-ta
teacher-NOM child-ACC scold-Pst
'the teacher scolded a child'

c. John-ga ame-ni hur-are-ta
-NOM rain-by fall-Pass-Pst
'John was adversely affected by rain falling on him'

d. ame-ga hut-ta
rain-NOM fall-Pst
'rain fell'

The passive sentence (2a) above expresses that John (the additional NP) was unfavorably affected, i.e., upset or embarrassed in this particular case, because his child had been scolded by the teacher. Similarly, the passive sentence (2c) above states that John (the extra NP) was adversely affected in some sense, e.g., was in trouble or was upset because it had rained (which perhaps made him cancel or postpone something he had planned). For another thing, (2c) demonstrates that even intransitive verbs may be passivized in this type of passive. This second type is referred to as the 'indirect' passive.

There are thus two types of *ni* passives: the first type is the *ni* 'direct' passive as in (1b), and the second is the *ni* 'indirect' passive such as (2a) and (2c). (See also Kuno, 1973; 1983; McCawley, 1972; Shibatani, 1990 and references cited there for detailed characterizations of these two types of Japanese passives.)

Lastly, the following is an instance of the *ni yotte*[2] passive along with its related active counterpart:

(3) a. Fermat no teiri-ga John-ni yotte syoomei-s-are-ta
Fermat's theorem-NOM -by prove-Pass-Pst
'Fermat's Theorem was proved by John'

b. John-ga Fermat no teiri-o syoomei-si-ta
-NOM -ACC prove-Pst
'John proved Fermat's Theorem' (Kuroda, 1979, p. 320)

When the paired sentences of (3a)-(3b) above are compared with those of (1a)-(1b), the *ni yotte* passive may appear to be identical with the *ni* 'direct' passive simply with the *ni yotte* phrase replacing the *ni* phrase. Yet these two types of passives are in fact both

semantically and syntactically different. These differences are discussed in the subsequent sections.

1.2.1. Semantic analysis of Japanese passives

1.2.1.1. Introduction

In this section, the three types of Japanese passives introduced in the previous section are looked at in more detail. As overviewed in the previous section, the *ni yotte* passive is often treated as a simple stylistic variant of the *ni* direct passive. Inoue (1976), however, offered a different analysis, observing that there are cases where the *ni yotte* passive is allowed while the *ni* direct passive is not. Stimulated by her insightful observation on the differences between the two, Kuroda (1979) proposed the following distinction between them: the *ni* direct passive carries an "affective" connotation whereas the *ni yotte* passive does not. In examining the semantic properties of *ni* direct and *ni yotte* passives in this section, this crucial semantic concept of the *ni* direct passive, e.g., the "affective" connotation, is elaborated on. Finally, the semantic analysis of the *ni* 'direct' passive is extended to the *ni* 'indirect' passive.

1.2.1.2. Adversity in the *ni* direct passive

One semantic instantiation of "affective connotation" in the *ni* direct passive, i.e., its adversative reading, is examined below. Although, initially, the *ni* direct passive has been exemplified as apparently similar in structure to the English passive (see (1)), the former may carry an adversative connotation whereas the latter does not. According to Kuroda (1965), "the Japanese passive sentence is, in principle, not neutral as it is in

English, but carries an implication of disadvantage for the subject" (p. 160). This unfavorable connotation in the *ni* direct passive arises even when there is no such implication in its active counterpart. Compare the differences in meaning below between the active and passive sentences in Japanese ((4a) and (4b)), on the one hand, and between the Japanese and English passive sentences ((4b) and (4c)), on the other:

(4) a. butyoo-ga Satoo-o soomu-ka-ni mawasi-ta
director-NOM Sato-ACC general-affairs section-to transfer-Pst
'the director transferred Sato to the general-affairs section'

b. Satoo-ga butyoo-ni soomu-ka-ni mawas-are-ta
Sato-NOM director-by general-affairs section-to transfer-Pass-Pst
'Sato was adversely affected by being transferred to the general-affairs section by the director'
(Howard & Niyekawa-Howard, 1976, p. 211)

c. Sato was transferred to the general-affairs section by the director.

Howard & Niyekawa-Howard (1976) held that while the active sentence (4a) above may be used in any kind of transfer, the passive sentence (4b) typically implies that the transfer to the general-affairs section was a demotion for Mr./Ms. Sato, the person transferred. Such an unfavorable connotation to Mr./Ms. Sato is totally lacking in (4c), the English passive counterpart of (4b).

An additional example of the connotation differences follows below:

(5) a. Suzuki-san-ga Ozawa-san-o nizikan mat-ta
Suzuki-NOM Ozawa-ACC two hours wait-Pst
'Suzuki waited two hours for Ozawa'

b. Ozawa-san-ga Suzuki-san-ni nizikan mat-are-ta
Ozawa-NOM Suzuki-by two hours wait-Pass-Pst
'Ozawa was adversely affected by being waited for by Suzuki for two hours'
(Howard & Niyekawa-Howard, 1976, p. 210)

c. Ozawa was waited for by Suzuki for two hours.

Similarly, in contrast to the neutral statement in the active sentence (5a) above, the passive sentence (5b) indicates that Ozawa found himself in an inconvenient situation because Suzuki had been waiting for him for two hours. It implies, for instance, a context in which the former was trying to avoid meeting the latter. Such an implication is far-fetched in the English passive sentence (5c).[3]

1.2.1.3. *Ni* versus *ni yotte* contrasts

Turning to the contrast between the *ni yotte* passive and the *ni* direct passive, in many cases it may appear that *ni yotte* is merely a stylistic variant of *ni* as shown in (6) below:

(6)

a. John-ga Bill-ni hinan-s-are-ta
-NOM -by criticize-Pass-Pst

b. John-ga Bill-ni yotte hinan-s-are-ta
-NOM -by criticize-Pass-Pst
'John was criticized by Bill'

c. Bill-ga John-o hinan-si-ta
-NOM -ACC criticize-Pst
'Bill criticized John'

There are, however, significant differences in how the *ni* direct passive and the *ni yotte* passive may be used. Two differences resulting from the fundamental semantic difference between the two are presented below.

1.2.1.3.1. Perfective versus non-perfective readings

There are cases in which *ni yotte*, but not *ni*, may mark an agent NP in passive sentences (see Inoue, 1976 for more examples):

(7) kaikai-ga gityoo-ni yotte/*-ni sengen-s-are-ta
opening of the meeting-NOM chairperson-by announce-Pass-Pst
'the opening of the meeting was announced by the chairperson'
(Inoue, 1976, p.83)

(8) sono hon-wa Ooe Kenzaburoo-ni yotte/*-ni kak-are-ta
that book-TOP Ooe Kenzaburoo-by write-Pass-Pst
'that book was written by Kenzaburoo Ooe'

The contrast in grammaticality in (7) above shows that if the passive subject is an abstract noun like *kaikai* 'the opening of the meeting', *ni yotte* is obligatory. Similarly, as illustrated in (8), when the subject in a passive sentence is concrete but inanimate, such as *sono hon* 'that book', *ni yotte* is obligatory. This is so because

> *ni* has the meaning of 'influence of the agent' on the passive subject. Its difference from *ni yotte* is: *ni* may be used only in cases where the passive subject and the agent are closely related to each other in this sense.... if the passive subject is such that it does not feel such influence, or that it does not receive the direct effect of such influence, one cannot use *ni*. Therefore, if the passive subject is inanimate, *ni* is often excluded (Kuroda, 1979, pp. 309-310, citing Inoue, 1976, p.83).

But as Inoue (1976) further noted, not all inanimate passive subjects require *ni yotte*. The following examples show exceptions to this generalization:

(9) a. kono siro-wa Tokugawa-gun-ni koogeki-s-are-ta
this castle-TOP Tokugawa-army-by attack-Pass-Pst
'this castle was attacked by the Tokugawa army'

b. kono ie-wa itabei-ni kakom-are-te iru
this house-TOP wooden-fence-by surround-Pass-Perf-Pres
'this house is under the state of being surrounded by a wooden fence'
(Inoue, 1976, p.83)

In both (9a) and (9b) above, despite the inanimate passive subjects, *siro* 'castle' and *ie* 'house' respectively, the *ni* direct passive is grammatical. In the case of the first type of

exception, Inoue proposed that *siro* 'castle' in (9a) means not only a castle as a building, but also by extension a group of warriors stationed in it, and thus may be understood as standing for an animate referent. Thus, the *ni* direct passive sentence (9a) does not count as a true exception to Inoue's observation above.

Turning to the second exceptional case illustrated by (9b), Kuroda (1979) proposed that an inanimate NP may be the subject of the *ni* direct passive if the passive sentence is in the perfective aspect, in the sense that it expresses a state of the passive subject which has resulted from an event or process described by the rest of the sentence. One way of effecting a perfective reading in the *ni* direct passive is by means of the *te iru* form as shown in sentence (9b). That is to say, it describes the state of the house existing at the present time as a result of the process of someone having surrounded it with a wooden fence which took place prior to the reference time.

On the other hand, when the *te iru* form expresses a progressive aspect, the *ni* direct passive with an inanimate subject is not permissible as shown below:

(10) ano mati-wa nihon-gun-ni yotte/*-ni hakai-s-are-te iru
that town-TOP the Japanese army-by destroy-Pass-Prog-Pres
'that town is being destroyed by the Japanese army' (Kuroda, 1979, p. 328)

This is so because the passive sentence of the progressive reading (10) above does not readily express the existing state of the passive subject *ano mati* 'that town' as resulting from destruction by the Japanese army, but rather describes the on-going process of the destruction of the town. Hence, the grammaticality contrast between (9b) and (10), namely, the grammaticality of (9b) with its perfective *te iru* reading versus the

ungrammaticality of (10) with its progressive *te iru* reading, illustrates that an inanimate NP may be the subject of the *ni* direct passive in a perfective reading.

Furthermore, a perfective reading may be brought forward by means of the *ta* form (which expresses either a perfective or simple past reading). Compare the following presence and absence of the grammaticality contrast between the *ni* direct and the *ni yotte* passives:

(11) a. ano mati-wa nihon-gun-ni yotte/-ni hakai-s-are-ta
that town-TOP Japanese Army-by destroy-Pass-Perf
'that town has been destroyed by the Japanese Army' (perfective reading)

b. ano mati-wa nihon-gun-ni yotte/*-ni hakai-s-are-ta
destroy-Pass-Pst
'that town was destroyed by the Japanese Army' (simple past reading)
(Kuroda, 1979, p. 327)

When someone is looking down from a hilltop and sees the town in rubble with his or her own eyes as a result of destruction by the Japanese Army, as in the perfective reading, both the *ni* direct and the *ni yotte* passives (11a) above are permissible; on the other hand, to refer to the above destruction as a historical incident that took place in the past, e.g., in the past reading, the *ni yotte*, but not the *ni* direct passive, is used (Kuroda, 1979).

Consequently, Kuroda (1979) claimed that Inoue's (1976) general observation on *ni* direct passive sentences with an inanimate subject such as (7) and (8) should be subsumed under the former's (i.e., Kuroda's) proposal. It is not possible, for instance, to conceive that an abstract entity such as 'the opening of a meeting' will be in a certain state as a result of the chairperson's announcing it, and thus a perfective reading is not possible for (7). This requires the passive sentence (7) to be in a simple past reading, resulting in the ungrammaticality of the *ni* direct passive version of (7). Similarly, the

passive sentence (8) clearly states a historical achievement by Kenzaburo Ooe, a Nobel laureate; thereby it must be in a past reading. This renders the *ni* direct passive version of (8) ungrammatical.

1.2.1.3.2. Verb-induced viewpoint differences

The other difference between *ni* direct and *ni yotte* passives arises depending on the viewpoint from which an event or process is described in the passive sentence. More specifically, the *ni yotte* passive may be used when a passive sentence provides a neutral, objective description of an event, while the *ni* direct passive may be used appropriately when a passive sentence describes a personally-involved event. One means of effecting such a viewpoint difference is in the choice of a verb used in the passive sentence. Two types of verb-induced viewpoint differences are given below.

The first case is based on the observation that traditionally, Sino-Japanese verbs are preferred over Japanese native ones in formal objective writing. Thus the former may fit with the *ni yotte* passive while the latter may be appropriate for the *ni* direct passive. With this in mind, look at the following set of three passive sentences:

(12) a. Bill-ga John-ni koros-are-ta
-NOM -by kill-Pass-Pst
'Bill was killed by John'

b. Bill-ga John-ni yotte koros-are-ta
-by
'Bill was killed by John'

c. Bill-ga John-ni yotte satugai-s-are-ta
murder-Pass-Pst
'Bill was murdered by John' (Kuroda, 1979, p. 320)

The verb in (12a) and (12b) above, *korosu*, is a Japanese native verb meaning 'kill, murder', and that in (12c), *satugai-suru*, is a near-synonymous Sino-Japanese verb meaning 'kill, murder, slaughter'. The agentive NP, John, is marked with *ni* in (12a), but with *ni yotte* in (12b) and (12c). Kuroda (1979) maintained that (12b) sounds unnatural due to the rather inappropriate combination of the Japanese native verb and *ni yotte*. The sentence (12c) definitely reads more naturally than (12b) since the main verb is substituted with the Sino-Japanese one (consonant with *ni yotte*), but (12c) might still be felt to be less natural than (12a) wherein the appropriate combination of the Japanese native verb and *ni* is used.

Further, Kuroda (1979) claimed that the degree of naturalness of the *ni yotte* passive sentence (12c) above is improved if the personal name, *John*, is replaced by the name of an impersonal agency, say, the CIA, as given in (13a) below:

(13)

a.	Bill-ga	CIA-ni yotte	satugai-s-are-ta
	-NOM	-by	murder-Pass-Pst
	'Bill was murdered by the CIA'		
b.	*Bill-ga	tuma-ni yotte	satugai-s-are-ta
		wife-by	murder-Pass-Pst
	'Bill was murdered by his wife'		
c.	Bill-ga	tuma-ni	koros-are-ta
	'Bill was killed by his wife'		

This is so because the impersonal agent, the CIA, further enhances the objectivity of the situation described, as in newspaper reporting. Conversely, (13b) is rendered unnatural as a *ni yotte* passive when Bill's wife, who maintains a close relationship with Bill (the victim), is substituted for the CIA in (13a). On the other hand, this family tragedy of the murder of the husband by the wife is appropriately expressed in the *ni* direct passive

sentence (13c). Based on these and other observations of highly subtle but consistently apparent semantic differences between *ni* and *ni yotte* passives, Kuroda suggested that the *ni yotte* passive tends to serve as an objective description whereas the *ni* direct passive implies some empathy on the part of the passive subject (from which an 'affective' connotation may derive).

The second case of verb-induced viewpoint difference derives from a special verb class. Verbs of this class, when passivized, carry a clear unfavorable connotation to the passive subject. These verbs are also unique in that the existence of lexical passive counterparts, i.e., unaccusative verbs, preempts otherwise possible *ni yotte* passivization. One such case involves the transitive verb *miru* and the unaccusative verb *mieru*. The former means "perceive by sight (viz. look at)" and the latter "perceive by sight passively (or spontaneously) (viz. visible)".[4] Compare the following sentences:

(14)

a. Bill-ga nozokimi site iru tokoro-o[5] John-ni mi-rare-ta
-NOM peeping (into a room) as -by see-Pass-Pst

b. *Bill-ga nozokimi site iru tokoro-o John-ni yotte mi-rare-ta
'Bill was affected by being seen by John as he was peeping (into a room)'

c. John-ni Bill-ga nozokimi site iru tokoro-ga mie-ta
-DAT -NOM peeping (into a room) as visible-Pst
'Bill was visible to John as he was peeping (into a room)'

(Kuroda 1979, p. 314 & p. 317)

Kuroda (1979) stated that the *ni* direct passive sentence (14a) above is an appropriate description of the incident in which Bill was peeping into a room and suddenly perceived that his peeping had been being witnessed by John. Bill's highly personal, psychological reaction to the event is aptly expressed by the *ni* direct passive. Kuroda also held that the *ni yotte* passive sentence (14b) is totally inappropriate due to the incompatibility between

the emotional reaction and the objective nature of the *ni yotte* passive. Indeed, replacing (14b), sentence (14c) serves as a 'non-affective' or impersonal counterpart of (14a).

1.2.1.3.3. Adversity in the *ni* indirect passive

Here the analysis of the semantic contrast between the *ni* direct passive and the *ni yotte* passive is extended to the *ni* indirect passive. As presented above, the *ni* indirect passive has often been characterized as adversative (Kuno, 1973) since this type of passive predominantly expresses the idea that the referent of the surface subject is adversely affected by the event or state described by the remaining sentence. In fact, an adversative connotation of the indirect passive is further underscored in an extended context such as below:

(15)

a. John-wa warui toki-ni tomodati-ni ko-rare-ta
-TOP bad time-at friend-by come-Pass-Pst
'John was unfavorably affected by his friend visiting him at an inconvenient time'

b. *John-wa yoi toki-ni tomodati-ni ko-rare-ta
good time-at
'*John was unfavorably affected by his friend visiting him at a convenient time'
(Kuroda 1979, p.355)

In (15a) above, the adversative connotation that John was inconvenienced by his friend's visiting is compatible with, and indeed enhanced by, the adverbial phrase *warui toki ni* 'at an inconvenient time', whereas in (15b), it is incompatible with the adverbial phrase *ii toki ni* 'at a convenient time', rendering it ungrammatical.

This property of the *ni* indirect passive is in line with the observations on the semantic differences between *ni* direct and *ni yotte* passives, viz., the *ni* direct passive

expresses an affective connotation whereas the *ni yotte* passive does not. Compare the following pairs of *ni* and *ni yotte* indirect passive sentences:

(16)	a. (= 2a)	John-ga	sensee-ni	kodomo-o	sikar-are-ta
	b.	*John-ga	sensee-ni yotte	kodomo-o	sikar-are-ta
		'John was adversely affected by the teacher's scolding his child'			
	c. (= 2c)	John-ga	ame-ni	hur-are-ta	
	d.	*John-ga	ame-ni yotte	hur-are-ta	
		'John was adversely affected by rain falling on him'			

These grammaticality contrasts between the grammatical *ni* indirect passive sentences (16a)/(16c), on the one hand, and the ungrammatical *ni yotte* indirect passive sentences (16b)/(16d), on the other, clearly show that *ni* but not *ni yotte* is compatible with the indirect passive due to its predominantly adversative reading.

Figure 1 summarizes the three types of Japanese passives characterized in this section according to various semantic features which produce an affective connotation.

Figure 1. Semantic classifications of Japanese passives

Passive types	Affective connotations	Semantic features producing affectivity
Ni direct passive	+	Adversative reading Perfective reading w/inanimate passive subject Verb-induced personal viewpoint
Ni indirect passive	+	Adversative reading
Ni yotte passive	-	Non-adversative reading[a] Any reading w/inanimate passive subject Verb-induced objective viewpoint

a. The third column of the *ni yotte* passive summarizes its semantic features corresponding to those of the *ni* direct passive as a result of its non-affective connotations.

1.2.2. Syntactic analysis of Japanese passives

1.2.2.1. Introduction

The previous section has reviewed various kinds of evidence that Japanese passives may be classified semantically into two types: the *ni* passive, both direct and indirect, and the *ni yotte* passive. This section summarizes Hoshi's (1991; 1993a; 1993b; 1993c; 1994a; 1994b; 1999) proposal of syntactic representations of the *ni* direct passive, the *ni* indirect passive, and the *ni yotte* passive in line with Kuroda's (1965; 1979) semantic analysis.[6] Specifically, Hoshi's arguments for the syntactic distinction between the *ni* direct passive and the *ni yotte* passive are examined first, followed by his syntactic analysis of the three types of Japanese passives.

1.2.2.2. Syntactic evidence for the difference between the *ni* direct and the *ni yotte* passives

This section presents two kinds of syntactic evidence for the difference between *ni yotte* and *ni* direct passives. Hoshi (1991; 1994a; 1994b) observed the following contrast in grammaticality where the verb phrase idiom *tyuui-o harau* 'pay heed' is passivized:

(17) a. Mary-ga tyuui-o harat-ta
-NOM heed-ACC pay-Pst
'Mary paid heed'

b. tyuui-ga Mary-ni yotte haraw-are-ta (the *ni yotte* passive)
heed-NOM -by pay-Pass-Pst
'heed was paid'

c. *tyuui-ga Mary-ni haraw-are-ta (*ni* passive)
heed-NOM -by pay-Pass-Pst
'*heed was affected by being paid by Mary' (Hoshi, 1991, p. 70)

Following Kuroda's (1965; 1979) proposal that the passive morpheme *rare* of the *ni* direct passive is a verb requiring the subject of a passive sentence to be an 'affectee'[7] (i.e., an experiencer of the event or action expressed by the lower clause (clarified later)), whereas the passive morpheme *rare* of the *ni yotte* passive is a suffix which imposes no such restriction on the subject, Hoshi accounted for the above grammaticality contrast between the grammatical *ni yotte* passive sentence (17b) above and the ungrammatical *ni* direct passive sentence (17c) as follows: It is possible to passivize the object of a verb phrase idiom in the *ni yotte* passive while it is not possible in the *ni* direct passive. This is so because being assigned the 'affectee' θ-role, the subject position of the latter type of passive cannot take an object NP of the verb phrase idiom (viz. non-affectee). No such restriction is imposed on the subject position of the *ni yotte* passive, allowing it to serve as a passive subject.

Next, Hoshi (1991; 1994a; 1994b) observed the grammaticality contrast put forth by the subject-oriented adverbial modification. In short, subject oriented adverbs such as *orokanimo* 'stupidly' cannot modify the subject of the *ni yotte* passive while such adverb modification is possible in the *ni* direct passive as given below:

(18) a. daitooryoo-ga orokanimo CIA-ni koros-are-te-simat-ta
president-NOM stupidly -by kill-Pass-should not have-Pst

b. ??daitooryoo-ga orokanimo CIA-ni yotte koros-are-te-simat-ta
'the president stupidly let the CIA kill him, which he should not have let happen'
(Hoshi, 1994, p. 151)

Hoshi held that this contrast could be accounted for if we assume that the subject in the *ni* direct passive is a θ-position whereas that in the *ni yotte* passive is a non θ-position and, furthermore, that subject oriented adverbs are licensed by, or require, a θ-subject.[8] Since

the subject position in the *ni* direct passive is a θ-position, a subject oriented adverb such as *orokanimo* 'stupidly' is licensed, resulting in the grammaticality of (18a) above. But since the *ni yotte* passive does not provide a θ-subject, the licensing condition for the adverb is not met, rendering (18b) ungrammatical.

Based on these observations, Hoshi (1994a; 1994 b) proposed a syntactic analysis of the three types of Japanese passives. The analysis of each type of passive is presented below in the order of the *ni yotte* passive, the *ni* indirect passive, and the *ni* direct passive.

1.2.2.3. Syntactic representations of the *ni yotte* passive[9]

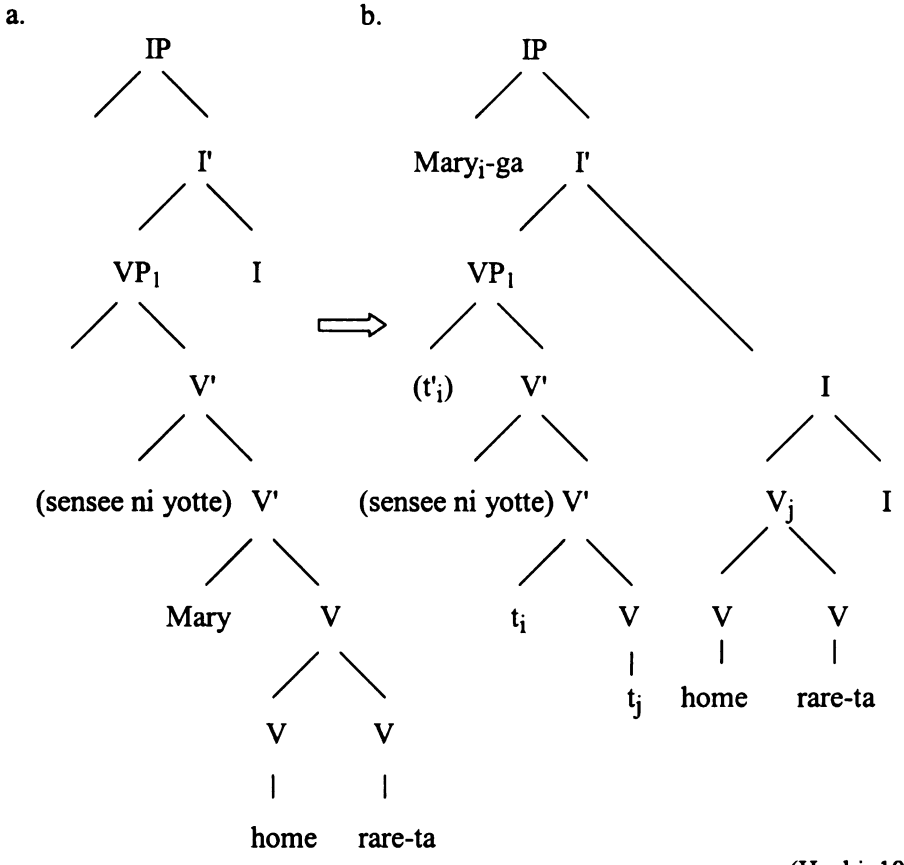
The *ni yotte* passive is derived in precisely the same way as the English passive is derived from its active counterpart. In other words, the passive morpheme of the *ni yotte* passive, *rare*, functions as a passive affix as the English counterpart, *-en,* does. See the following *ni yotte* passive and its corresponding active sentences:

(19) a. Mary-ga sensee-ni yotte home-rare-ta
-NOM teacher-by praise-Pass-Pst
'Mary was praised by the teacher'

b. sensee-ga Mary-o home-ta
-NOM -ACC praise-Pst
'the teacher praised Mary' (Hoshi, 1994a, p. 42)

The structures for the *ni yotte* passive (19a) above are as follows:

(20)



(Hoshi, 1994a, p. 43)

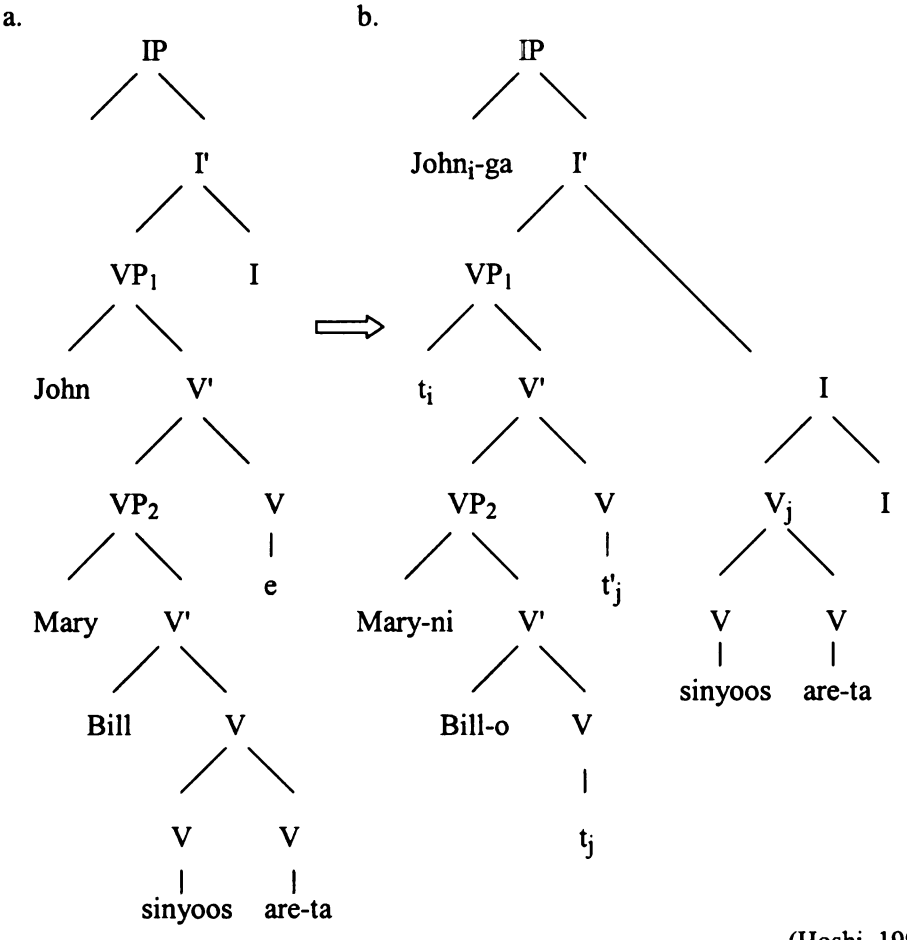
As shown in (20a) above, the passive morpheme *rare* attaches to the verb at the initial point of the derivation. It then triggers passivization in which the external θ-role of the verb *homeru* 'praise' is suppressed and the objective case of the verb is absorbed.[10] Due to the external θ-role suppression, the external argument of the verb, *sensee* 'teacher', appears as an adverbial adjunct phrase, *sensee-ni yotte*. Next, as illustrated in (20b), the internal argument of the verb, *Mary*, undergoes NP movement to SPEC of IP for case reasons. Finally, the complex verb *home-rare-ta* moves up to I to have its tense features checked off.

1.2.2.4. Syntactic representations of the *ni* indirect passive

The second type of passive presented is the *ni* indirect passive. In this type of passive, unlike the passive affix *rare* of the *ni yotte* passive, the passive morpheme *rare* serves as a verb assigning its external 'affectee' θ-role and does not trigger passivization. An example of a *ni* indirect passive sentence follows in (21) and is derived in (22).

(21) John-ga Mary-ni Bill-o sinyoos-are-ta
-NOM -by -ACC trust-Pass-Pst
'John was affected by Mary's trusting Bill' (Hoshi, 1994a, p. 60)

(22)



(Hoshi, 1994a, p. 64)

In (22a), the passive verb of the *ni* indirect passive, *rare*, adjoins to the transitive verb *sinyoo-suru* 'trust' without triggering passivization processes because by assumption it is not a passivizer. Due to the absence of passivization within VP_2 (the lower VP), i.e., without θ-role suppression, the external argument of the embedded verb, *Mary*, appears in the SPEC of VP_2 position, retaining an argument status. In (22b), it is *ni* case-marked as a last resort (see Saito's, 1982, theory of case assignment, cited in endnote 9). Similarly, because of the lack of case absorption within VP_2, the internal argument of the embedded verb, *Bill*, remains in its verb complement position, and later in (22b), it is *o* case-marked.

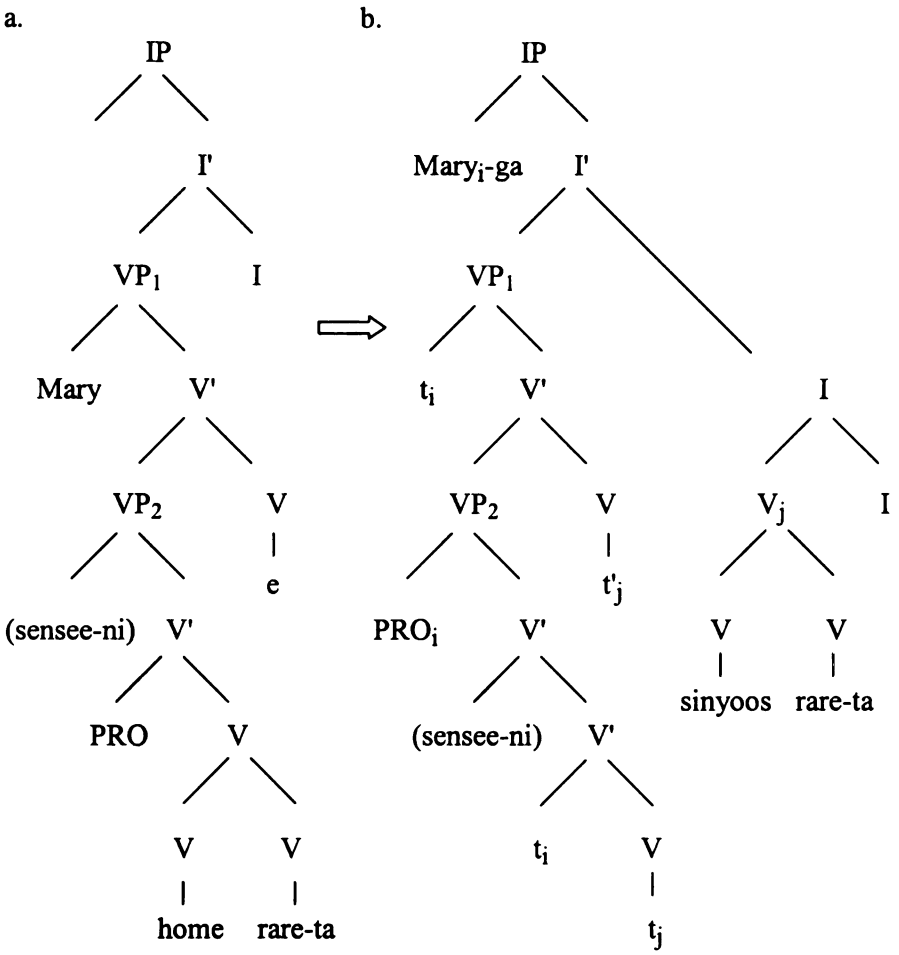
Moreover, since the passive verb *rare* assigns an external θ-role ('affectee'/experiencer) to the matrix subject, as well as an internal θ-role ('event'[11]) to the embedded clause later in the derivation, the Larsonian VP shell, VP_1, is generated over the lower clause VP_2.[12] The matrix subject *John* is generated under the SPEC of VP_1. In (22b), to have its tense features checked off, the complex verb, *sinyoos-are-ta*, is forced to move up to I. In the course of the movement up to I, the complex verb initially moves into the empty V position of VP_1, marked as *e* in (22a). In that V position, the passive verb *rare* assigns its 'affectee' external θ-role to *John* and the internal θ-role to the lower clause VP_2. The matrix subject *John* also moves up to the SPEC of I for case reasons.

1.2.2.5. Syntactic representations of the *ni* direct passive

We now turn to an examination of the structures of the *ni* direct passive. In this type of passive, as in the *ni* indirect passive, the passive morpheme *rare* functions as a verb assigning its 'affectee' θ-role; however, unlike in the *ni* indirect passive, this passive verb triggers passivization. See the *ni* direct passive sentence (23) and its structures (24) below:

(23) a. Mary-ga sensee-ni home-rare-ta
-NOM teacher-by praise-Pass-Pst
'Mary was affected by being praised by the teacher' (Hoshi, 1994a, p. 35)

(24)



(PRO within VP_2 is discussed shortly.)

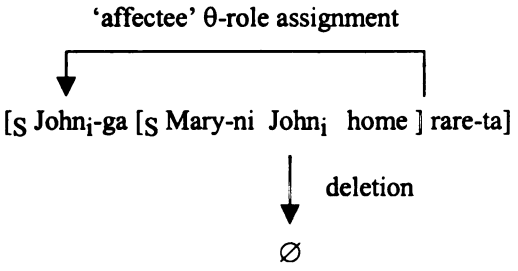
(Hoshi, 1994a, p. 35)

In (24a), the passive verb *rare* attaches to the embedded verb *homeru* 'praise' at the initial point of the derivation. Upon adjoining, the passive verb suppresses the external θ-role and absorbs the objective case of the embedded verb as in the case of *ni yotte* passivization in (20a). Because of this external θ-role suppression, the external argument of *homeru* appears as an adverbial phrase in a V' adjoined position, e.g., *sensee-ni*, under the embedded clause VP_2. As illustrated in the derivation of the *ni* indirect passive in (22), the Larsonian VP Shell VP_1 is also generated over the embedded clause VP_2. In the

SPEC of VP_1, the matrix subject *Mary* is generated. Then, in (24b), the complex verb, *home-rare-ta*, moves up to I by way of the empty V position within VP_1, where the passive verb assigns its external as well as internal θ-roles. The matrix subject *Mary* also moves up to the SPEC of I for case reasons.

In the syntactic analysis of the *ni* direct passive above, Hoshi (1994a) posited PRO under V' of lower VP_2 in (24a) for the following reasons. In Kuroda's (1965; 1979) analysis of the *ni* direct passive, as shown in (25) below, the matrix subject receives the external 'affectee' θ-role from the passive verb *rare*. However, it also involves a deletion operation of 'EQUI' type (see below). That is to say, because the embedded object *John* is identical with the matrix subject *John* (indicated by co-indexation), the embedded object (the second *John*) is deleted.

(25)



Hoshi pointed out, however, that it is not clear, under current grammatical theory, what the nature of the deletion operation in (25) is. Moreover, it is necessary to specify how the internal argument of the embedded verb, the second *John*, is represented in the above structure (25). While following Kuroda's analysis of the *ni* direct passive, Hoshi resolved these problems by assuming that PRO is generated under V' of VP_2 (embedded

VP) and receives the internal θ-role of the verb *homeru* as shown in (24a) above. At a later point of the derivation, in (24b), PRO moves up to SPEC of VP_2 to receive null case (Chomsky & Lasnik, 1995).[13]

To recap, the three types of syntactic derivations have been identified for Japanese passives: the *ni yotte* passive, the *ni* indirect passive, and the *ni* direct passive. Table 1 summarizes the classification of these three passives according to the presence or absence of 'affectee' (experiencer) external θ-role assignment and passivization as the functions of the passive morphology *rare*.

Table 1: Syntactic classification of Japanese passives

	External θ-role Assignment	Passivization
ni direct passive	+	+
ni indirect passive	+	-
ni yotte passive	-	+

1.3. Acquisition studies on Japanese passives in SLA

In this section, previous studies on the acquisition of Japanese passives are reviewed. To the best of my knowledge, there are only a small number of studies addressing the acquisition of passives in Japanese in SLA.

First, Tanaka (1992) conducted an error analysis type of examination of uses of Japanese passives by upper intermediate and advanced learners who were predominantly speakers of European languages. Forty-six out of the 71 learners were English-speaking learners. They had all enrolled in either an upper intermediate or an advanced class at a

university in Tokyo during the data collection period. Data for the study consisted of written samples from class writing assignments collected over a period of three years.

A total of 311 instances of uses of passives were extracted from the writing samples for the error analysis. The initial inspection of overall correct and incorrect uses indicated that there were 181 correct uses and 130 incorrect instances (i.e., 58.2% correct use). Next, in order to conduct a more detailed analysis, these passive sentences were divided into two types: the animate passive subject type (in which a subject of the passive sentence is animate) and the inanimate passive subject type (in which it is inanimate).[14] These occurred 117 and 194 times, respectively. The inanimate passive subject type was used 62.4% of the time and thus appeared more frequently than the animate passive subject type. This was due perhaps to the nature of essay-type writing assignments which require stating objective facts and opinions (Tanaka, 1992), and which thus provided more suitable contexts for the former type of passive over the latter.

In the animate passive subject type, 71 uses were correct and 46 were incorrect (i.e., 60.7% correct use) whereas in the inanimate passive subject type, 110 instances were correct and 84 were incorrect (i.e., 56.7% correct use). Hence it appears that both types of passives were used roughly at the same correct use rate. The indirect passive was used only four times: twice correctly and twice incorrectly (i.e., 50% correct use), suggesting the avoidance strategy in use due to its difficulty.[15]

Furthermore, in order to conduct a qualitative analysis of those incorrect uses of passives, Tanaka (1992) examined what kinds of errors were made in using the inanimate subject and the animate subject passives. In the former, errors in the choice of aspect as well as in particle use were frequent. Specifically, the stative verb form *te iru* was not

often used in passive sentences where it was needed. Misuses of *ni* instead of *ni yotte* to mark an agent NP of the passive sentence were also identified. Characteristic misuses of the animate subject passive had to do with confusion with other complex structures such as causatives, causative passives, etc; that is to say, the animate subject passive was used where causatives or causative passives should have been or vice versa. Errors in particle use involving *ga*, *ni*, *o* were also found.

Actually observed misuses of particles in Tanaka (1992) are given below in (26) together with their corrected counterparts, where the bold-face parts indicate incorrect and corrected particle uses, and pairs of (a)-(b), (c)-(d), (e)-(f), as well as (g)-(h) constitute incorrect and corrected pairs:

(26)

a. *sono ningyoo-wa tanin-**ga** tukur-are-ta
that doll-TOP a stranger-**NOM** make-Pass-Pst

b. sono nigyoo-wa tanin-**ni yotte** tukur-are-ta
-by
'that doll was made by a stranger'

c. *siken/zyuken benkyoo no kyoosoo-**o** kyootyoo-s-are-ta
competition in exams/entrance exams-**ACC** emphasize-Pass-Pst

d. siken/zyuken benkyoo no kyoosoo-**ga** kyootyoo-s-are-ta
-NOM
'competition in entrance examinations was emphasized'

e. *wakai hito no kaiwa-**ga** komar-ase-rareru-rasii
conversation by younger people-**NOM** trouble-Pass-seem

f. wakai hito no kaiwa-**ni** komar-ase-rareru-rasii
-by
'(they) seem to be troubled with conversation by younger people'

g. *nihon de-wa gaikokuzin-**ni** simon-o tor-arete-imasu
Japan in-TOP foreigners-**by** fingerprint-ACC take-Pass-Pres

h. nihon de-wa gaikokuzin-**ga** simon-o tor-arete-imasu
-NOM
'The government in Japan makes resident foreigners get fingerprinted'
(Tanaka, 1992, pp. 155-156)

In (26a), the agent NP, *tanin* 'stranger', in the *ni yotte* passive is nominative case-marked where it must be *ni yotte* marked as in (26b), since the agent NP has undergone θ-role suppression and has been demoted to the *ni yotte* phrase. Likewise, in (26c), the complex patient NP, *siken/zyuken benkyoo no kyoosoo* 'competition in exams/entrance exams', is wrongly accusative case-marked where the correct particle use is a nominative case marker, *ga*, as shown in (26d), since the patient NP has undergone accusative case absorption and has been moved to the subject position. In (26e), the source NP, *wakai hito no kaiwa* 'conversation by younger people', in the *ni* direct passive is nominative case-marked where it should be *ni* marked as in (26f) since the source NP has gone through θ-role suppression and has been demoted to the *ni* phrase. Finally, in (26g), the experiencer NP, *gaikokuzin* 'foreigners', in the *ni* indirect passive is incorrectly agentive *ni*-marked where it should be nominative case *ga*-marked as the *ni* indirect passive subject, indicating a person who has experienced the unpleasant incident of being fingerprinted for the domicile registration as in (26h).

To further examine the uses of passives and other complex structures, Tanaka (1993) contrived a discourse completion test based on mis- or non-uses of them, as found in Tanaka (1992). She administered it to 20 intermediate, 16 upper intermediate, and 44 advanced learners of Japanese. As in her previous study they were all enrolled in Japanese language classes at a university in Tokyo. The numbers of English-speaking learners in each group were 18 (90% of the group), 13 (81.25%), and 24 (54.55%), respectively. Thus English was the predominant L1 of the groups.

It was found that learners at the intermediate level failed to use the passive structure when they were asked to complete the clause where its initial NP was only given with a verb specified as follows: *nihonzin* [ ] *yoo ni*, ... 'so that Japanese people [ ], ...' (use *warau* 'laugh at'). In this example, they had to first supply an appropriate particle and then conjugate the verb *warau* 'laugh' to a passive negative form. Half of the intermediate learners completed it as an active sentence as follows: *nihonzin*[*-ga warawa-nai*] *yooni* 'so that Japanese people do not laugh at (you)'. The correct completion required using a passive sentence, namely, *nihonzin*[*-ni waraw-are-nai*] *yoo ni* 'so that (you) are not laughed at by Japanese people'. From a purely grammatical perspective, the former response is correct; however, in order to describe a potentially embarrassing situation in which a referent of the statement above may be laughed at (for doing something Japanese people do not normally), the *ni* direct passive should be used to express this adversity connotation. This type of misuse of the active instead of the passive sentence diminished as learners advanced in proficiency levels: 31.3% of the upper intermediate and 11.4% of the advanced group.

From these two studies the following two observations can be made: First, syntactically, the *ni* direct and the *ni yotte* passives were almost equally difficult to learn, to the extent that even upper intermediate and advanced learners were able to use them correctly in writing only half of the time. For the *ni* indirect passive, an apparent avoidance in use was evidenced. Misuses of case marking were evidenced across all three types of passives. Second, semantically, an adversative reading of the *ni* direct passive was not well learned by the intermediate learners. Yet it appears that the learners were eventually able to learn it as they advanced in their proficiency levels.

The next work under review is Watabe, Brown, & Ueta (1991) in which they conducted a contrastive analysis study to examine functional transfer effects from English to Japanese and vice versa in the use of passive sentences. English-speaking learners of Japanese in the study were 27 advanced learners who had been studying Japanese for an average of four years at a university in the US and who had all lived in Japan for 18 to 24 months. The eighteen NSs of Japanese used as controls were students or their spouses at the university who had very little knowledge of English.

Both the NSs and the NNSs (non-native speakers) of Japanese were asked to perform the following two writing tasks: 1) to produce a newspaper account of a fire which was portrayed in a series of five pictures; and 2) to write on the topic of 'the most misfortunate event in my life'. For both compositions, subjects were told to write as much as they could in 20 minutes each. The first topic was chosen to elicit English-type passive uses such as impersonalization (i.e., "the identity of the subject/agent of the active is suppressed") and de-transitivization (i.e., "the clause becomes semantically less-active, less-transitive, more stative") (Watabe et al., 1991, cited from Givon, 1981). The second topic was expected to elicit Japanese-type passive uses, particularly the adversative passive, which expresses that the subject of the passive sentence is adversely affected by the event or action described by the remainder of the sentence.

Overall there were 27 passive sentences found in the English-speaking learners' writings, of which thirteen uses were incorrect (48.15% incorrect use). Watabe et al. found that none of these errors appeared to be attributable solely to grammatical mistakes such as incorrect morphological change in the verb or a faulty particle choice, except for the inaccurate lexical choice between transitive and intransitive verbs. On the other hand,

a functional analysis of both groups' compositions identified the source of the incorrect uses, and revealed a difference in the way that the two groups used Japanese passive sentences in their writings. Specifically, NSs of Japanese were more likely to use passive sentences in reporting their personal account (the second task) while English-speaking learners were more inclined to make use of them in the newspaper account (the first task). The ratio of the number of passives used in the newspaper account to that in the personal experience account was .40 to 1.0 for the NS group, and 3.43 to 1.0 for the English-speaking learners' group.

Given that the newspaper account provided a functionally appropriate setting for use of the English passive, and the personal account was well suited to the use of the Japanese adversative passive, these findings led Watabe et al. (1991) to the following conclusion: the English-speaking learners transferred discourse functions of the English passive when producing Japanese passive sentences in writing although they made very few grammatical errors in forming them.

An example of such non-use of the Japanese passive due to the functional transfer from English is given below:

(27)

*yoi koto-o	site-iru noni		naze	tomodati	de aru
good thing-ACC	do-Prog-Pres even though		why	friend	be
minna-wa	(watasi-o)	izimete-i-ta	no ka	to	nayan-da
everyone-TOP	-ACC	tease-Prog-Pst	QUE	that	worry-Pst

'I wondered why everyone who was my friend was teasing me even though I was doing good things' (Watabe et al., 1991, p. 128)

The above sentence is inappropriate because it does not use the passive construction to express the situation in which the subject of the sentence was adversely affected by the

action of the verb *izimeru* 'tease'. The appropriate expression for this situation would be the following use of the passive construction (where bold-face indicates a corrected use of the *ni* direct passive):

(28) yoi koto-o site-iru noni naze tomodati de aru minnna-**ni** izime-**rare**-te
everyone-**by** tease-**Pass**-Prog
ita no ka ....

Thus, in Watabe et al.'s (1991) study it was demonstrated that it is very difficult to elicit Japanese passive sentences in production tasks. Even in the task specifically designed to elicit Japanese passive sentences, i.e., the personal experience account task, the NS controls used passives only on average 1.389 times per subject, whereas they produced them on average as few as .556 times per subject for the newspaper account task. The English-speaking learners used them .308 times for the former task and 1.056 times for the latter. Next, the widely held view that Japanese passives are difficult for English-speaking learners to learn received supportive evidence from this study. The English-speaking subjects of the study who had studied Japanese for as many as four years on average and who had lived in Japan over a year were successful in using passive sentences correctly only about half of the time (at a rate of 51.85%). Finally, although Watabe et al. ascribed the NNS subjects' errors in the use of Japanese passives to functional transfer from English, it is not clear from their study whether the NNS subjects possessed the semantic knowledge that Japanese passives may express adversity. The study would have shed light on the question of source(s) of transfer if there had been an attempt to measure the subjects' knowledge of adversity in Japanese passives.

The final study under review was prompted by frequent reports that Chinese-speaking learners encounter difficulties learning Japanese passives. Feng (1993) investigated their acquisition of Japanese passives in light of both promoting and interfering influences of the L1. Subjects in the study included three groups of Chinese-speaking learners: 1) 20 Chinese speakers who had either taught Japanese or served as interpreters in China for an average of five years and two months after obtaining a degree in Japanese, and who had lived in Japan on average for two years and three months. Their average length of study amounted to 11 years (= C1); 2) 30 learners who had been studying Japanese at a university in China for three years, and who had never been in Japan (= C2); 3) 21 learners who had been studying Japanese at an institution in Japan for one year and one month on average (= C3). As a control, 130 NSs of Japanese (= J) participated in the study.

All study participants answered two surveys concerning Japanese passives. The first survey involved rating the semantic naturalness of a total of 36 passive sentences on a five-point scale, e.g., 'very natural', 'somewhat natural', 'not sure', 'somewhat unnatural', and 'very unnatural'. Ten sentences in the survey were acceptable both in Japanese and Chinese, while the remaining 26 sentences were acceptable in one language, but not in the other. The second survey required choosing appropriate passive markers from the four choices of *ni*, *ni yotte*, *kara*, and *de*[16] in a total of 46 passive sentences. There are no such equivalents to these passive particle markers in Chinese.

It was expected that where there were similarities in passives between the two languages, learning had been facilitated; where there were dissimilarities, learning had been hindered. The results of the first survey supported this hypothesis. Namely, for the

rating of passive sentences exhibiting similarities between the two languages, the most advanced Group C1 approximated the NS group J in 93.5% of them whereas C2 and C3 also agreed with J in 86.3% and 87.1% of them, respectively. On the other hand, in rating those displaying dissimilarities, C1 agreed with J in only 43.1% of them, whereas C2 and C3 agreed in 47.3% and 46.7%, respectively.

The second survey (choice of appropriate passive particle markers) included passive sentences such as those given below (where correct passive markers (bold-faced) are provided):

(29) a. karera-wa sinkoo-**ni yotte** sukuw-are-ta
they-TOP faith-by redeem-Pass-Pst
'they were redeemed by their faith in GOD'

b. heewa-mo karera-**ni yotte** yabur-are-ta
peace-also them-by break-Pass-Pst
'peace was broken by them, too'

Note that passive sentence (29a) above is such that the *ni yotte* passive is preferred over the *ni* direct passive in objective reporting whereas sentence (29b) does not readily allow a perfective reading and thus requires the *ni yotte* passive. Table 2 below summarizes the proportions for the choices of *ni* and *ni yotte* in the two passive sentences above by the subject groups. In Table 2, the figure under each group column indicates the proportions of subjects who chose *ni yotte* and *ni* respectively. (Since they were allowed to choose more than one passive marker, the total percentage of *ni yotte* and *ni* choices may exceed 100%.)

Table 2: Subjects' percentage choice of *ni yotte* and *ni*

Sentences		*J*	*C1*	*C2*	*C3*
A[a]	*ni yotte*	89.2	95	46.7	33.3
	ni	7.7	15	40	42.9
B	*ni yotte*	83.1	75	20	33.3
	ni	6.2	0	40	57.1

a. A and B designate sentences (29a) and (29b) respectively.

The table shows that a great majority of NS subjects chose *ni yotte* for both sentences (89.2% and 83.1%), whereas only a few of them chose *ni* (7.7% and 6.2%), consistent with Kuroda's (1979) theory. The highly advanced Group C1 exhibited a particle-choice pattern remarkably similar to the NS group J. i.e., 95% and 75% for the *ni yotte* choice versus 15% and 0% for the *ni* one. However, the less proficient groups, C2 and C3, failed to evince a similar pattern of choices, and opted for *ni* over *ni yotte* more frequently.

Feng's (1993) study found clear evidence for L1 influences, both promoting and interfering, in Chinese-speaking learners' acquisition of the semantics of Japanese passives. Properties of Japanese passives shared with their Chinese counterparts were easily learned, while those differing from Chinese passives were not learned even by the highly advanced subjects. By contrast, in learning appropriate passive particle marker choices, the highly advanced Chinese-speaking subjects approximated the NS controls in differential uses of *ni* and *ni yotte* in passive sentences. The performances of the other two groups indicated the lack of such knowledge of Japanese passives. (See also Yang & Akahori, 1998 for similar findings.) (As for FLA on Japanese passives, see Hakuta, 1982; Harada, 1977; Sano, 1977; and, particularly, Clancy, 1985 for an overview of

acquisition studies of Japanese passives. For more recent work, see Iitaka, 1989; Ryuzaki & Ito, 1999; Sano, Endo, & Yamakoshi, 2001; Suzuki, 1998.)

The aforementioned studies on the acquisition of Japanese passives found the following: 1) the *ni* indirect passive was most difficult for English-speaking learners to learn, whereas *ni* direct and *ni yotte* passives were similar in difficulty for them; 2) case marking errors in passive sentences of all three types were all evidenced; 3) the *ni* direct passive was often not used where it should have been in order to express an adversative reading; and 4) highly advanced Chinese-speaking learners were able to learn differential uses of the *ni* direct versus the *ni yotte* passive.

1.4. Adversative readings of passives by native speakers of Japanese

This section explores the extent and the nature of an adversative reading in *ni* direct and indirect passive sentences by reviewing an empirical study which examined how NSs of Japanese rate the adversative connotation of *ni* direct and indirect passives when these passive sentences vary in terms of verb connotation and subject animacy.

There is general agreement in the literature that the *ni* indirect passive primarily expresses an adversative reading, yet it is still controversial to what extent the *ni* direct passive carries an adversative reading as its basic meaning (see Alfonso, 1980; Howard & Niyekawa-Howard, 1976; Jacobsen, 1992; Kuno, 1973; 1983; Kuroda, 1979; McCawley, 1972; Shibatani, 1990; Wierzbicka, 1979). In order to address this issue (and others) Spees (1992) investigated the following questions: 1) does the *ni* direct passive as well as the *ni* indirect passive generally carry an adversative reading? 2) is animacy of the passive subject a necessary condition for an adversative reading? Twenty-one NSs of

Japanese participated in her study: eight males and thirteen females whose ages ranged from 19 to 34. They included mostly students and their spouses or friends at a university in the US.

They were asked to assess the degree of positiveness or negativeness in the meaning of a total of 42 Japanese sentences using a seven-point rating scale (i.e., from +3 to -3). The test sentences included pairs or trios of active and *ni* passive (direct and indirect) sentences, controlled for the following two factors: 1) animacy of the passive subject, i.e., animate or inanimate; and 2) verb connotations, positive (*ex. ai-suru* 'love'; *seekoo-suru* 'succeed', etc.), neutral (*ex. tukau* 'use; *iku* 'go', etc.), and negative (*ex. hinan-suru* 'criticize'; *sinu* 'die', etc.). Each example of active and passive sentences with a neutral verb is given below:

(30) i. active: Yasuko-wa sono pen-o tukat-ta
Yasuko-TOP that pen-ACC use-Pst
'Yasuko used that pen'

ii. *ni* direct passive: sono pen-wa Yasuko-ni tukaw-are-ta
that pen-TOP Yasuko-by use-Pass-Pst
'that pen was used by Yasuko'

iii. *ni* indirect passive: Kazue-wa pen-o Ziro-ni tukaw-are-ta
Kazue-TOP pen-ACC Ziro-by use-Pass-Pst
'Kazue was negatively affected by Ziro using the pen'

(Spees, 1992)

It was expected that active sentences with neutral verbs such as (30i) would be rated around zero, e.g., neither positive nor negative, while the *ni* indirect passive versions like (30iii) would be assessed negatively. A critical case was whether sentences like (30ii), a *ni* direct passive containing not only a neutral verb but also an inanimate subject, would be rated negatively.

It was found, first, that *ni* indirect passive sentences were rated negatively, i.e., read adversely, irrespective of verb connotations: the mean rating scores were -.92 for positives, -1.52 for neutrals, and -2.60 for negatives. It was found, secondly, that the degree of negative rating increased significantly progressively from positive verbs, to neutral, and to negative ones. That is to say, sentences with negative verbs were judged most negatively and those with positive verbs least negatively. (The *ni* indirect passive sentences with an inanimate subject were not tested.)

Next, as for *ni* direct passive sentences with an animate subject, negative ratings were given to those with negative verbs (a mean rating score of -2.45) and neutral ones (-.95), but not with positive ones (2.38). As was found in the *ni* indirect passive, the degree of negative ratings decreased significantly from negative to neutral verbs, but unlike the previous finding, *ni* direct passive sentences with positive verbs were not rated negatively. Second, it was evidenced that *ni* direct passive sentences with an inanimate subject such as (30ii) above were rated negatively when there were no positive connotations in the verbs used in them: the mean rating scores were -2.06 for negatives, -.95 for neutrals, and .40 for positives.

These findings led Spees to conclude 1) that the *ni* indirect passive primarily carries an adversative reading as asserted in the literature, and furthermore that this is so even for passive sentences with verbs carrying positive connotation; 2) that the *ni* direct passive may be read adversely when verbs used in it carry either negative or neutral connotations; and 3) that animacy of the subject is not necessary for an adversative reading in the *ni* direct passive; that is to say, the *ni* direct passive with an inanimate

subject may carry an adversative reading in the same way that with an animate subject does.

1.5. Issues on native speakers' grammaticality judgment

This section reviews empirical studies which investigated various aspects of the difference in grammaticality judgment performances between linguists and non-linguists. There are two positions put forth concerning the question of what effect linguistic training exerts on NS's grammaticality judgment ability: Does a linguist come to have a sharper sense of grammaticality than a non-linguist, or alternatively, does he or she come to develop a sense of grammaticality quite different from that of a non-linguist? Bradac, Martin, Elliott, & Tardy (1980), arguing in favor of the latter view, noted: "as a result of their special training, linguists may tend to judge strings differently from nonlinguists. Training in linguistics may produce beliefs or attitudes which are not shared by those who have not received such training" (p. 968). Levelt (1974), by contrast, maintained that linguists' training indeed enables them to factor out various irrelevant noise sources influencing grammaticality judgments to which naïve NSs may be susceptible. (See Schütze, 1996 for an extensive review of various reliability and validity issues surrounding NS grammaticality judgment.) Results of empirical studies addressing this issue have been found inconclusive.

In her widely cited seminal work on grammaticality judgment differences between linguists and non-linguists, Spencer (1973) adopted a skeptical stance on linguists' use of their own intuitions for linguistic research. The subjects of her study included 43 (non-linguist) NSs of English taking an introductory psychology course and

22 NNSs of English who had taken at least one course in generative grammar at a university in the US.[17] They were instructed to rate 150 sentences drawn from six linguistic articles as either good or bad, with no other option available. The test sentences were those judged as either clearly grammatical or ungrammatical by the original linguist authors.

It was found first that an average of 81.4% of the 150 test sentences were clear cases, in that at least 65% of the subjects in both (NS and NNS) groups gave the same judgment to a given sentence. The two groups differed by only 6% in the proportion of those sentences accepted; in other words, they accepted roughly the same number of sentences.[18] Second, since it was established that the subjects' ratings were overall consistent, the linguist authors' judgments, i.e., judgments in the source articles, were compared to those of the subjects (i.e., 65 non-linguists). The result was that 48.67% of the test sentences (73 out of a total of 150) exhibited judgment disagreements between the two groups. The disagreement was counted when more than 35% of the subjects did not agree with the author in rating any given sentence. (See Greenbaum, 1988 for similar results.)

Thus, Spencer (1973) showed that approximately half of the time, sentence judgments given her subjects were different from those given by the articles' authors (from whom the test sentences were taken). But as Schütze (1996) has pointed out, this is quite different from showing that linguists' grammaticality judgments as a group differ systematically from non-linguists'.

Next, Snow & Meijer (1977) conducted three experiments to substantiate their claim that syntactic intuitions are methodologically secondary to spontaneous speech by

showing that metalinguistic performances may vary depending on how data are collected. (Only the first two experiments, relevant to the present study, are reported on below.) The subjects of their first experiment involved 25 naïve NSs of Dutch who were in their first or second year of a linguistics program, but had not taken any courses in syntactic theory. The subjects of the second experiment included eight practicing syntacticians whose primary data consisted of their own intuitions.

Their test materials involved 12 structures concerning three word order issues in Dutch. There were two sentence items for each of the 12 structures in question, with a total of 24 test sentences in the experimental material set. They were presented in two different conditions: absolute judgments and rank-orderings. In the former, the subjects were instructed to indicate whether they thought each of the 24 sentences was "good" Dutch, where "good" meant acceptable in the spoken language. There were three options from which to choose: good, not good, and in-between or not sure. In the second condition, the 24 sentences were divided into four sets of six sentences each containing the three word order problems in question. The subjects were told to reorder them, by rewriting what they considered the best Dutch at the top, the worst Dutch at the bottom, and multiple sentences on a single line if they were equally good or bad.

Two sessions, separated by a one-week interval, were convened in which half of the subjects took the absolute judgment test and the other half took the rank-ordering test in the first session, and vice versa in the second session. Both the first and second experiments employed precisely the same test materials and experimental procedures in order to produce comparable findings.

In the first experiment with the 25 non-linguists, there was some variability observed in their absolute ratings in both between-subjects and within-subjects agreements. In terms of the between-subjects, at the highest agreement, one test structure was agreed upon by 23 of them: at the lowest agreement, two sentence types received almost an equal split with respect to the subjects' judgments, i.e., approximately half rated them as good and the other half as bad on both occasions. There was disagreement over half of the ten structures tested[19] where at least two subjects both times gave ratings different from those made by the majority of the subjects. The within-subjects consistency was 70.8%, with a given subject rating about seven out of the ten structurally identical sentence pairs consistently, i.e., good, bad, or unsure on both occasions.

The results of the rank-orderings condition also showed some variability. The between-subjects agreement was found significant for all of the sets of six sentences as measured by Kendall's coefficient of concordance ranging from .466 to .670 (which is not extremely high). The most agreed-upon sentence showed disagreements by only three of 25 subjects, while all the other sentences showed at least seven disagreements as compared to their mean rank; i.e., at least seven subjects placed them differently from their mean rank. Moreover, no single test sentence was ranked by all the subjects either at the best or the worst in a total of six sentences. In short, variability was found in the non-linguists' metalinguistic performances under two data collection conditions.

In the second experiment with eight linguists, greater consistencies were found in both conditions, although some variability remained. The linguist subjects showed greater between-subjects consensus in the rank-orderings condition with Kendall's coefficients ranging between .581 and .844 (as opposed to those from .466 to .670 for the

non-linguist subjects), suggesting that the linguist subjects were more likely to rank a group of six test sentences in the same order as the non-linguist subjects did. The linguists also demonstrated significantly greater within-subjects consistency in the absolute judgments condition, e.g., 94.3% compared to 70.8% for the non-linguist group. (No report on sentence-by-sentence comparisons was given as in the first non-linguists' experiment.)

Finally, when a direct comparison was made between the linguists and the non-linguists, the mean rank-orderings of both groups demonstrated a high correlation (Spearman $\rho = .89$) and so did the absolute judgments (Spearman $\rho = .84$), indicating that these two groups performed the two tasks similarly.

By demonstrating variability in sentence judgments under two different data presentation conditions, Snow & Meijer (1977) claimed that it was necessary to establish better methodological principles in syntactic research data collection. In contrast to Spencer's (1973) finding that there was a judgment difference between a group of non-linguists and an individual linguist, Snow & Meijer found that the judgments given by the linguist subjects as a group were in accord with those of the non-linguists. In fact, the linguists manifested more consistent judgments than the non-linguists, indicating the beneficial effects of linguistic training (see also Levelt, 1974).

In a departure from Snow & Meijer's (1977) approach to the issue of linguist and non-linguist grammaticality judgment performances, Ross (1979) investigated perceptual differences in grammaticality judgments. He asked 30 subjects (15 linguists and 15 non-linguists) to assess the grammaticality of 12 sentences (see below) on a four-point scale, i.e., 1 (perfectly grammatical) to 4 (perfectly ungrammatical). Moreover, he elicited their

perceptions about the judgments they gave. Specifically, they were asked to indicate 1) how confident they were of their judgment by choosing one of the three options of 'pretty sure', 'middling', and 'pretty unsure'; and 2) how normative they thought that judgment was in comparison to most speakers by rating themselves as 'liberal', 'middle-of-the-road', or 'conservative'. By way of illustration, test sentences rated as grammatical, ungrammatical, and somewhere in between (in mean judgment score terms) are given below in (31a) to (31c), respectively:

(31) a. the doctor is sure that there will be no problems
b. what will the grandfather clock stand between the bed and?
c. the idea he wasn't in the store is preposterous.

Four differences between linguists and non-linguists were observed in the responses each group gave to the 12 sentences exemplified by the three examples in (31) above. First, it was found that, on average, the linguists were slightly less confident of their judgments than the non-linguists, as reflected in their indices of confidence assessing the sentences. The linguists marked the 'pretty unsure' option three times more frequently than their counterparts (6% versus 2%) whereas both groups chose the 'pretty sure' choice with almost identical frequency (73% for the former versus 75% for the latter). Second, the linguists rated themselves as less conservative than the non-linguists in judging the sentences. Although both groups were similar with respect to the percentage of liberal judgments (22% for the linguists versus 24% for the non-linguists), the former gave 'conservative' judgments only about half as often as the latter (13% vs. 24%). Third, the linguists rated the sentences as overall more grammatical than did the non-linguists. While both groups used roughly the same number of the 'somewhat

grammatical' and the 'perfectly ungrammatical' choices, the linguists selected the 'perfectly grammatical' option approximately 35% more times than the non-linguists whereas the latter opted for the 'somewhat ungrammatical' option about 45% more times than the former. Fourth, the linguists made fuller use of the four levels of grammaticality than the non-linguists: 33% of the linguists used each category of grammaticality (1 to 4) at least twice whereas only 23% of the non-linguists did so.

Although no statistical significance was considered in Ross's (1979) analyses, it appears that linguists, while less confident and less stringent sentence raters than non-linguists, nevertheless attempted to make finer grammaticality distinctions than their counterparts.

More recently, Coppieters (1987) addressed the issue of ultimate attainment in SLA by investigating whether near-native speakers of French attained essentially identical grammars of the language as developed by NSs. In the course of data analysis, he examined NSs' judgments closely and found variation among the NSs.

Data were collected from 21 near-native speakers of French whose linguistic abilities were indistinguishable from NSs in language use, and from 20 NS respondents with varied backgrounds ranging from five French linguists and five professors of language or literature to one caretaker and one retired public employee. Each subject in the two groups was interviewed individually by the researcher using a questionnaire of 107 sentences. The questionnaire consisted of two components: 1) a preference test in which subjects were asked to indicate and provide reasons for a preference of one string over the other in 20 pairs of closely related sentences and 2) an acceptability judgment test in which they were requested to judge the acceptability of 66 sentences.

In his analysis, Coppieters (1987) first developed a prototypical profile of grammaticality for the test sentences on the basis of the majority of the NSs' judgments. More than 80% of the NS subject group were found to agree on their judgments of 90 out of 107 test sentences (an agreement rate of 84.1%). Individual NSs' judgments of the test sentences ranged in disagreement with the established profile from 5% to 16%. Next, when their responses were examined in light of sentence types, the subjects diverged considerably from the prototypical norm (e.g., 10% or above) in four out of a total of nine areas, including article usage, contrasts between preposed and postposed adjectives, and the like. By contrast, the NS subjects conformed to the established norm more than 90% in the remaining five areas such as contrasts between *imparfait* and *passé compose*, A-over-A Constraint, etc.

Although Coppieters (1987) did not attempt to provide an overarching characterization of the sentence types on which the NS subjects tended to agree or disagree in their responses, his study clearly demonstrated that NSs' (both linguists and non-linguists) grammaticality judgments vary in consensus by differing degrees depending on the linguistic features being tested.

This section has summarized a number of representative studies addressing the issue of differences in grammaticality judgment between linguists and non-linguists. Despite a considerable body of evidence that these two groups of NSs differ in performing grammaticality judgments, the question of how they differ remains unresolved.

1.6. Use of grammaticality judgment tasks in SLA research

This section considers various issues concerning the use of grammaticality judgment tasks in SLA since the present study employs a grammaticality judgment task for data collection.

1.6.1. Advantages of grammaticality judgment tasks

There are three practical reasons often given to justify the use of grammaticality judgment data over spontaneous speech data in an investigation of interlanguage (IL) grammar (see Juffs, 1996; White, 1989). First, certain linguistic behaviors of L2 (second language) learners are not readily accessible to researchers in production data (such as naturally occurring conversations) because they occur either rarely or not at all. Furthermore, learners have been observed to avoid using structures that they find difficult (Schachter, 1974). In the case of Japanese passives, it was found that learners rarely use *ni* indirect passive sentences in compositions at least (Tanaka, 1992; Watabe et al., 1991). Thus it would be highly problematic to gather large samples of various kinds of passive sentences from L2 production data. Second, related to this, the use of grammaticality judgment tasks allows a researcher to obtain information on strings that do not exist in language, i.e., ungrammatical strings constructed to violate certain principle(s) of the language. Third, in observing and collecting naturally occurring speech samples, it is difficult to reliably distinguish slips of the tongue, unfinished utterances, etc. from ungrammatical production reflecting IL grammar.

1.6.2. Validity and reliability issues of grammaticality judgment tasks in SLA research

Following the adoption of this particular methodology from the research of theoretical linguistics, a considerable body of L2 research has subjected to close scrutiny the assumption that grammaticality judgment tasks provide indirect measures of learners' linguistic competence from which inferences can be made about learners' linguistic development. (For views advocating the use of grammaticality judgment tasks in L2 research, see Bley-Vroman, Felix, & Ioup, 1988; Chaudron, 1983; Cowan & Hatasa, 1994; Gass, 1983; 1994; Hedgcock, 1993; Juffs, 1996; Munnich, Flynn, & Martohardjono, 1994; Schachter & Yip, 1990; White, 1989; and, for reserved views, Birdsong, 1989; Davies & Kaplan, 1998; Ellis, 1991; Goss, Zhang, & Lantolf, 1994.) The various findings have led to the conclusion that L2 learners' grammaticality judgments reflect complex processes in which linguistic competence interacts with performance variables in intricate ways. The emerging consensus is that they can provide valid and reliable data for L2 research when careful and appropriate care has been taken to reduce confounding variables, both linguistic and extralinguistic, and when L2 judgment data are examined as phenomena involving linguistic, metalinguistic, and cognitive behaviors. In the empirical studies under review below, attempts were made to factor out various factors involved in L2 learner's grammaticality judgment processes.

1.6.2.1. Validity issues of L2 grammaticality judgment

In addressing the validity issue of grammaticality judgment in SLA research, Davies & Kaplan (1998) compared strategies involved in arriving at judgments in L1 and

L2 to determine if there were any similarities or differences in the two contexts. The subjects of their study comprised 37 English-speaking learners of French in a fourth semester college-level course at a university in the US. These subjects performed both L2 French and L1 English grammaticality judgment tasks: in both tasks they were instructed to rate 12 sentences on a three-point scale: OK, Not OK, and Not Sure. The two tasks were separated by a five-minute intermission. Thirteen dyads of them performed the tasks in a speak-aloud format in which they were instructed to verbalize whatever they were thinking in arriving at grammatical judgments. The remaining eleven subjects carried out the task in an individual format. This format was included to insure that the judgments derived through dyadic interaction matched those made by the individuals.

Upon inspection of the transcription of the audio tape-recorded dyads, Davies & Kaplan (1998) identified strategies employed for the L2 grammaticality judgment task highly similar to those reported by Ellis (1991) (where the study adopted individual speak-loud protocols). These included linguistic intuitions-based judgment, use of explicit or learned knowledge, a meaning-based response, repair of a perceived problem, translation, analogy from some perceived similar structure, and guessing. Similarly, L1 judgments involved linguistic intuitions-based judgment, a meaning-based response, repair, and use of learned knowledge.

On the other hand, Davies & Kaplan (1998) identified two differences in use of strategies between L1 English and L2 French grammaticality judgment contexts: 1) the number of strategies employed per sentence and 2) particular types of strategies frequently used in each context. The first difference refers to the finding that in judging

L1 sentences, the dyads used, on average, 1.29 different strategy types per sentence while in rating L2 sentences, they employed 1.9 strategy types on average. The second difference is that the dyads gave linguistic intuitions-based judgments to 86.5% of the L1 sentences judged, by far the most frequently used strategy. By contrast, in the L2 context, their most frequently used strategy was use of explicit or learned knowledge (57.8%) followed by meaning-based responses (43.7%). Linguistic intuitions-based judgments were third (39.3%). These findings led Davies & Kaplan (1998) to conclude that the subjects of their study made L1 and L2 grammaticality judgments in different ways. They thus claimed that "L2 GJs [grammaticality judgments] are not necessarily as representative of a speaker's [linguistic] competence as it is assumed that L1 GJs are" (p. 198).

There are, however, several problems in their study. First, a concern has been raised over the validity and reliability of this line of research methodology. Specifically, an identification of strategies from transcribed data may risk susceptibility to subjective interpretation when there are no standard data coding procedures established (Cowan & Hatasa, 1994). Second, Davies & Kaplan's (1998) study simply showed that there were quantitative differences in use of strategies between L1 and L2 grammaticality judgments; it failed to demonstrate a clear qualitative difference between the two contexts. Moreover, Davies & Kaplan themselves acknowledged a possible positive correlation between the use of L1-like strategies and learners' proficiency levels, and speculated that "strategies used for L2 GJs are reminiscent of strategies used for judgments of very complex and difficult-to-process L1 structures" (p. 202) (see also Goss et al., 1994 who made a similar observation). If so, contrary to the authors' claim, the

two considerations above suggest there is no *fundamental* difference in the ways L1 and L2 grammatical judgments are given.

Next, in consideration of grammaticality judgment as a complex product of interactions between grammatical and processing factors, Schachter & Yip (1990) further investigated Schachter's (1989) finding that both NSs and NNSs of English found subject extraction sentences more difficult to judge than object extraction sentences. An example of the former is 'What did the nurse say she reported *t* had happened to the patient?'; 'What did the nurse say she reported the patient had taken *t*?' exemplifies the latter type (Schachter & Yip, 1990, p. 387): the *t* in the exemplar sentences indicates the extraction site of a wh-word. The subjects of their study included 20 English-speaking freshman university students, 20 Chinese-speaking and 20 Korean-speaking NNSs who had passed the English proficiency exams required for the university enrollment. They rated 54 test sentences on a four-point grammaticality scale: clearly grammatical, probably grammatical, probably ungrammatical, and clearly ungrammatical. A questionnaire included, *inter alia*, wh-subject and wh-object extraction type questions as shown above. There were three tokens of each type, all grammatical, at four-clause, three-clause (such as the above examples), and two-clause levels, respectively.

Individual judgment scores were obtained by assigning scores of three to zero to responses of 'clearly grammatical' to 'clearly ungrammatical', respectively. Since there were three tokens of each type, the maximum score was nine. It was found that NSs' mean scores were consistently higher for wh-object extraction questions than for wh-subject ones throughout the clause levels. They also showed an inverse relationship between the level of embeddedness and the degree of grammaticality for both wh-subject

and wh-object extraction questions. Specifically, these ranged from a mean of 7.8 for one-clause movement to 5.6 for three-clause movement for objects, and from 6.5 to 4.0 for subjects. Identical phenomena were observed in NNSs' data. Chinese-speaking NNSs' mean scores ranged from 6.9 to 5.1 for objects, and from 5.1 to 2.8 for subjects. Korean-speaking NNSs demonstrated the same judgment pattern.

Clearly, the inverse relationships between embeddedness and grammaticality were due to the processing difficulty of identifying a wh-word with its embedded extraction site. Schachter & Yip (1990) offered a further account for the judgment differences between subject and object extractions in processing terms. In brief, they argued that the subject extraction sentence is more difficult for on-line processing since it requires a more demanding revision of a phrase marker being constructed at the initial parsing, in order to arrive at an eventually correct parsing (see Schachter & Yip, 1990, pp. 387-389 for more details).

On the basis of these findings, they claimed that both NSs and NNSs, when confronted with a highly complex or lengthy sentence to judge, may reject or accept it regardless of its grammaticality status. This is due to processing difficulty, not the ability or inability to assess grammaticality based on linguistic knowledge. This study clearly demonstrated the importance of taking into consideration the complex interplay of both linguistic and processing factors in eliciting and interpreting metalinguistic data.

Finally, there have been various attempts to demonstrate that grammaticality judgment data are a reliable measure of learner's linguistic knowledge by advancing other performance data that converge with those from metalinguistic judgments. Leow (1996) conducted one such study that investigated whether a relationship exists between

learners' grammaticality judgments and their performances in production tasks at two substantially different stages of their L2 development. In that study 30 English-speaking learners of Spanish who were enrolled in the first semester of a college-level Spanish course not only carried out a grammaticality judgment task, but also performed both oral and written production tasks in two occasions separated by 11 weeks.

The linguistic item selected for the study was the agreement feature between nouns/noun phrases and adjectives or past participles (which function like adjectives in Spanish). In the first metalinguistic task, there were 33 test sentences to discriminate in grammaticality, of which 20 contained ungrammatical target forms. The subjects were told to correct the errors and provide a reason for the correction. In the second production tasks, they carried out the oral and written activities in which they provided responses to questions about a series of drawings depicting everyday episodes that lent themselves to the use of the target agreement forms. Forty-one questions (including 21 distractors) were also designed to encourage the use of target items in the responses. The three tasks described above were administered as a set on two occasions: Session 1 took place during the third week of the language course and Session 2 in the fourteenth week of the semester.

The mean scores for oral and written performance on the three tasks in Session 1 and 2, respectively, were as follows (a full score was 20 for each task): for the grammaticality judgment task, 4.68 and 9.13; for the written production task, 8.68 and 11.17; and for the oral production, 9.50 and 12.60. Significant positive correlations were found for all the four comparisons between the grammaticality judgment tasks and the oral/written production tasks in Session 1 and 2 (i.e., $r = .737$ and $.733$, $p < .01$ between

the grammaticality judgment and the written production task at Session 1 and 2, respectively; $r = .515$ and .602, $p < .01$ between the grammaticality judgment and the oral production, respectively).

Thus, this study showed not only that the judgment data mirrored other types of L2 data, namely, the oral and written production data, but also that the performances on grammaticality judgments appeared to reflect developing IL grammars, measured at Session 1 and 2, eleven weeks apart. This led Leow (1996) to conclude, "grammaticality judgments appear to reflect behavioral patterns of L2 development and, consequently, may be used as a reliable instrument for SLA research" (p. 135). (See also Mandell, 1999; Murphy, 1997 for studies validating L2 grammaticality judgment with other L2 data; and Christine & Lantolf, 1992 for a study invalidating the use of grammaticality judgment.)

1.6.2.2. Reliability issues of L2 grammaticality judgment

As reviewed above, empirical evidence indicated that some within- and between-subjects' variability exists in NSs' grammaticality judgments. Some degree of L2 judgment variability thus comes as no surprise (Birdsong, 1989; Ellis, 1990; 1991). There is, furthermore, one potential source for judgment inconsistency peculiar to SLA, i.e., IL indeterminacy, which refers to "the learner's incomplete knowledge or absence of knowledge of parts of the second-language grammar" (Gass, 1994, p. 305). It is thus important to take into consideration this evolving, indeterminate nature of IL grammar (Sorace, 1988) in dealing with L2 grammaticality judgment data.

Gass (1994) demonstrated one way of doing so. Her study included 23 subject learners of English (Chinese, Japanese, and Korean speakers) who were enrolled in ESL classes to satisfy the language requirement for university admission. They were told to assess a set of 24 relative clause sentences (half of which were grammatical and the other half ungrammatical) comprised of two tokens of each type together with 6 distractors. This instrument was administered twice, with one week separating the two (Time 1 and Time 2, respectively). In both sessions subjects made two kinds of assessments: first to make categorical grammaticality judgments, either Correct or Incorrect, and, second, to rate the confidence in their first judgment using a seven-point scale ranging from -3 (definitely incorrect), to 0 (unsure), to +3 (definitely correct).

The test sentences were constructed to include all six types of relative clauses based on the Accessibility Hierarchy (Keenan & Comrie, 1977)[20]. There is empirical evidence indicating that the Accessibility Hierarchy reflects degree of acquisition difficulties (Doughty, 1991; Gass, 1979); that is to say, a relative clause type lower on the Hierarchy is more difficult to learn than any higher.

Three major findings emerged. First, Gass (1994) reported that the overall reliability coefficients between Time 1 and Time 2 were significant ($r = .5979$, $p < .01$ for the categorical judgments, and $r = .6443$, $p < .01$ for the scalar judgments). Second, when the subjects' responses were examined according to the relative clause types, a greater consistency was found in judgments of relative clause types high on the Hierarchy and the least consistency in those low on the Hierarchy (i.e., in the categorical judgments $r = .7620$, $p < .001$ for the subject type and $r = .4789$, $p < .05$ for the object of comparative type; and in the scalar judgments $r = .8302$, $p < .001$ for the subject and $r =$

.5442, $p < .01$ for the object of comparative type). Third, when those judgments which showed erratic changes between Time 1 and Time 2[21] were eliminated, even greater reliability coefficients were obtained (e.g., in the categorical judgments $r = .8206$, $p < .001$ for the subject type and $r = .5933$, $p < .01$ for the object of comparative type; and in the scalar judgments $r = .9025$, $p < .001$ for the subject and $r = .7055$, $p < .001$ for the object of comparative type).

Conclusions drawn from these findings were three-fold. First, unlike Ellis (1990), this study did not find that L2 grammaticality judgments given on two separate occasions were unreliable. Second, support was found for the view that the degree of reliability of L2 judgment data is a function of syntactic factors. That is to say, lower reliability of the judgment data of the study was found where greater learning difficulty is predicted by the Accessibility Hierarchy. Third, it was experimentally demonstrated that L2 judgments deriving from indeterminate IL grammar may be isolated and eliminated, resulting in increased reliability of the data. (See also Johnson, Shenkman, Newport, & Medin, 1996 for discussion of indeterminacy in adult asymptotic (i.e., highly advanced) L2 learners' grammars in view of qualitative (as well as quantitative) differences from NSs' grammar.)

On the basis of the findings and suggestions offered in the extant studies reviewed above, great effort and care have been given to reducing linguistic and extralinguistic variables in designing the data collection method employed in the present study.

CHAPTER 2

PREDICTIONS

Predictions are made separately for NSs and NNSs of Japanese since the research questions addressed are different for the two groups.

2.1. Predictions for native speakers of Japanese

Because Kuroda's (1979) analysis of the semantic properties of Japanese passives hinges on the recognition of highly subtle differences in connotation in passive sentences[1], it is of critical importance to demonstrate that ordinary NSs' grammaticality judgments on semantic properties of passives in particular mirror his predictions. At the same time, an interesting question arises as to whether or not there would be any grammaticality judgment differences among NSs of Japanese in assessing semantic properties of passive sentences in view of such delicate nuances under consideration. This question may be addressed by collecting data from multiple NS groups who may differ in judgment performance. One such group difference may be elicited by gathering data from NSs both with and without linguistic training.

There are experimental studies which investigated the effect of linguistic training on NS's grammaticality judgment ability as one of the judge's internal factors influencing grammaticality judgment processes. The literature has been inconclusive, however, on such effects. Some studies found that NSs with linguistic training (henceforth referred to as linguists) could give more informative grammaticality judgments than NSs without

such background (abbreviated as non-linguists), while other studies showed that linguists' judgments were highly distinct from non-linguists'.

Thus, two predictions are given below: Prediction 1a concerns whether or not ordinary NSs of Japanese (defined as non-linguists) observe Hoshi (1994a; 1999) and Kuroda's (1979) characterizations of Japanese passives; Prediction 1b has to do with the issue of the presence or absence of grammaticality judgment differences between linguists and non-linguists.

Prediction 1a: Ordinary NSs of Japanese will give theory-consistent judgments in assessing the properties of Japanese passives;

Prediction 1b: The judgments of linguists and non-linguists will differ in their assessments of the properties of Japanese passives.

2.2. Predictions for English-speaking non-native speakers of Japanese

The present study investigated English-speaking NNSs' knowledge of syntactic and semantic properties of Japanese passives at different proficiency levels. Predictions on their syntactic and then semantic knowledge of them follow.

First, in examining English-speaking NNSs' syntactic knowledge of Japanese passives, their knowledge of case-marking phenomena in passivization processes is investigated (see Introduction and Materials for illustrations of such phenomena):

Prediction 2: The *ni* direct passive will be rated better than the *ni yotte* and the *ni* indirect passives in judging both grammatical and ungrammatical sentences in terms of case markings resulting from passivization processes;

Prediction 3: The *ni yotte* passive will be rated better than the *ni* indirect passive in judging both grammatical and ungrammatical sentences in terms of case markings resulting from passivization processes.

Of the three types, the *ni* direct passive generally is learned first by English-speaking learners owing to its surface similarity to the English passive and its frequency of use compared to the other two types. The *ni yotte* passive and the *ni* indirect passive, on the other hand, present different kinds of learning problems. Because the *ni yotte* passive is preferred and used mostly in formal writing, non-advanced learners may suffer input paucity and thus seem to encounter some learning difficulty despite the fact that the structure is syntactically an exact match to the English passive. In contrast, the *ni* indirect passive is syntactically entirely different from the English passive, which poses a primary learning difficulty. The difficulty with this type of passive was reported in the literature as learners' avoidance of its use (Tanaka, 1992).

Next, in gauging English-speaking NNSs' knowledge of the semantic properties of passives, the following features are pertinent to the present study: the presence and absence of an adversative reading, the presence and absence of the grammaticality contrast in perfective versus non-perfective readings, and verb-induced viewpoint differences (see Introduction and Materials for illustrations of these properties). These all

have to do with the difference between a θ (affectee)- and a non-θ-passive subject status, reflected in the *ni* versus *ni yotte* marking contrast. In the following, a prediction is given concerning each of the properties above:

Prediction 4: An adversative connotation will be read clearly in the *ni* indirect passive in the sense that a grammaticality distinction will be made between adversative and non-adversative readings: To a lesser extent, an adversative connotation will be read in the *ni* direct passive.

The observation has been made in the literature and has received empirical support in Spees (1992) that the *ni* indirect passive carries a predominantly adversative reading. In contrast, the degree to which the *ni* direct passive is read with an adversative connotation is weaker (see Wierzbicka, 1979). Thus, a grammaticality contrast will be made when the adversative and non-adversative readings are matched with the *ni* indirect passive. Similarly, but to a lesser extent, the *ni* direct passive will be judged contrastively in grammaticality between the adversative and non-adversative readings.

Prediction 5: The *ta*- and *iru*-marked *ni* direct passive will be judged as grammatical when it is read as perfective; however, it will not be judged as ungrammatical when read as non-perfective;

Prediction 6: The *ta*- and *iru*-marked *ni yotte* passive will be judged similarly whether it carries a perfective or a non-perfective reading.

The first part of Prediction 5 is straightforward: if NNS subjects have learned the syntactic basics of the *ni* direct passive, they will accept it. On the other hand, the second part holds that subjects will not be able to show a contrastive judgment of the *ni* direct passive with a non-perfective reading vis-à-vis perfective one. Rather, they will accept both perfective and non-perfective versions of the *ni* direct passive. This distinction is so subtle that it is unclear if they may be able to recognize it. Indeed, until Kuroda (1979) unraveled it, this phenomenon had been entirely unknown to Japanese linguists and still requires more thorough explanation. It is highly unlikely that subjects have received input, in a systematic fashion conducive to learning, which would indicate to them that non-perfective versions of the *ta-* and *iru*-marked *ni* direct passive is ungrammatical. In contrast, without such restriction on possible readings, the *ni yotte* passive will be judged without any difference irrespective of perfective and non-perfective readings.

Prediction 7: The indirect passive with an adversative reading will be rejected clearly when marked by *ni yotte*; and, to a lesser extent, the direct passive with an adversative reading will be rejected when marked by *ni yotte*.

As noted above, a predominant adversative reading in the indirect passive strongly renders the indirect passive incompatible with a *ni yotte* marking which indicates a non-θ-passive subject status. With a reduced tendency for an adversative reading, the degree of incompatibility between the direct passive and a *ni yotte* marking will be less aggravated.

Prediction 8: *The ni yotte* passive will be judged as grammatical when used in a context inducing an objective viewpoint, while it will be judged as ungrammatical when used in a personal context where the *ni* direct passive is appropriate.

In the literature (see Alfonso, 1980; Jacobsen, 1992; Kuno, 1983; Kuroda, 1979; Martin, 1975; Miyagi, 1999; Shibatani, 1990; Wierzbicka, 1979) the *ni yotte* passive is characterized as preferred in formal writing. Perhaps it is this area in which learners of Japanese are most likely to be exposed to the *ni yotte* passive. It is also a most common pedagogical characterization of this type of passive. Hence, it is in this area that learners initially learn about the *ni yotte* passive.

CHAPTER 3

METHOD

3.1. Subjects

The subjects of the present study included native speakers of Japanese and English-speaking learners of Japanese. There were two groups of NS subjects: the first group included 21 native speakers of Japanese who at the time of the data collection had been studying or had studied Japanese theoretical linguistics, particularly syntax and semantics, in graduate programs at eight different institutions.[1] These 21 NSs included nine doctoral students, six MA students, two university professors holding a PhD degree, two visiting researchers with an MA degree, and two university seniors. This group was classified as a linguistically sophisticated group owing to their solid linguistic training (see Appendix A for more detailed relevant background information). The second NS group included 31 native speakers studying sociology at the undergraduate level in a university in Tokyo. It was comprised of 10 sophomores, 15 juniors, and 6 seniors. A check of the background information sheet they filled out at the outset of the data collection procedure assured that no one in this group had ever taken a linguistics course.[2] Note also that their subject major, sociology, is not much concerned with language, which justified terming this group as linguistically naïve.[3] (See Appendix B for more detailed relevant background information.)

There were 81 subjects in the English-speaking NNS group[4], including undergraduate students, graduate students, and professors from twelve major universities in the US along with three subjects residing in Japan who were all US university

graduates.[5] The majors or specializations of forty-nine of them (60.5%) were Japan-related fields such as Japanese linguistics, Japanese literature, Japanese language, Japan studies, and East Asian Studies.

These 81 NNS subjects were assigned to three groups, (tentatively) termed as Group A (25 subjects), B (36 subjects), and C (20 subjects), based on their scores on part of the Japanese Language Proficiency Test (JLPT) taken during the data collection procedure. Group A JPLT scores ranged from 100% to 88% with a mean score of 23.76 out of a full score of 25; Group B from 84% to 64% with a mean of 18.57; and Group C from 60% to 32% with a mean of 11.40 (see the data coding section for scoring procedures). The cutoff line between groups A and B was set at approximately 90%, that between groups B and C at 60% which corresponds to the official pass-fail cutoff line set for the Level Three JLPT adopted in the present study. There was a highly significant difference in group mean scores ($F(2, 78) = 320.403, p < .0005$). The Tukey HSD result showed that all three groups were significantly different from one another.

The average length of study of each group was 9.74 years for Group A, 4.16 years for Group B, and 4.32 years for Group C, a calculation based on the self-reported information in the background information sheets. Twenty-three members of Group A (92%), 27 of Group B (75%), and 13 of Group C (65%) each had visiting experiences in Japan in the capacity of either research, work, exchange student programs, study, homestays, or vacations. The average duration in Japan of each group was 4.2 years for Group A, 20 months for Group B, and 9.9 weeks for Group C. Hence, groups A, B, and C are henceforth called the highly advanced group, the low advanced group, and the

intermediate group, respectively. (See Appendix C for complete background information on the NNSs' subjects.)

3.2. Materials

The data collection materials for the NSs of Japanese consisted of a background information questionnaire and a grammaticality judgment test. The NNSs' materials included a background information questionnaire, a Japanese language proficiency test including a vocabulary test, and a grammaticality judgment test.

3.2.1. Background information questionnaire

Two different formats for the background information questionnaire were developed for the NSs and the NNSs of Japanese respectively. The questionnaire given to the NS subjects of Japanese was designed to obtain information regarding their training in linguistics and other language-related experiences such as foreign language learning and study abroad experiences, as well as general demographic information. It included the following questions: linguistics-related courses previously taken, foreign languages learned, study abroad experiences, major, the highest attained educational level, age, and gender.

The questionnaire given to the NNS subjects of Japanese was devised to collect information on learning experiences of Japanese and a general demographic background. It contained questions concerning the length of learning Japanese, textbooks used, previous visiting experiences in Japan, out-of-classroom contact with Japanese, the most recent Japanese language-related course taken and its grade, foreign/second language

learning experiences other than Japanese, primary language(s), age, gender, the highest attained educational level, and major. (See Appendices D and E for the actual questionnaires in both formats.)

3.2.2. Japanese language proficiency test

It was critical to obtain an independent measure of the English-speaking subjects' general proficiency levels in Japanese to serve as the basis upon which they would be assigned to different proficiency groups. Part of the 1998 Japan Foundation Japanese Language Proficiency Test—which is essentially a Japanese language version of TOEFL— served this purpose (see Nabei & Busch, 1999 for discussion of the validity and reliability of the JLPT as a standardized proficiency measurement test). After pilot testing to determine which level of the JLPT[6] would be appropriate for the proficiency levels of learners likely to participate in the present study, the Level 3 JLPT was chosen.

The general criteria for Level 3 state that an examinee "knows about 300 kanji (Chinese characters) and 1,500 vocabulary words, and has the ability to take part in everyday conversation and to read and write simple sentences" (Japan Foundation & Association of International Education, 1994; Japan Foundation & Association of International Education, 1999). This level is broadly characterized as reachable after studying Japanese for approximately 300 hours. Since it was originally expected that the majority of the NNSs' subjects in the present study were likely to be third and fourth year learners of Japanese at universities, the Level 3 JLPT appeared to match their proficiency levels. Another important consideration was that the Level 2 JLPT was heavily inclined

to test examinee's lexical knowledge of fairly specialized vocabulary rather than syntax or morphology.

Since subjects' syntactic and semantic knowledge of Japanese passives was under investigation, the grammar component of the JLPT was selected: the other JLPT components of vocabulary, reading comprehension, and listening comprehension were not included in the administered proficiency test. This consisted of fill-in-the-blank, multiple-choice type of questions: namely, a subject had to fill in a blank found either in a single sentence or in a conversation with two turns, by choosing and circling the appropriate word(s) from four choices given. It was designed to elicit his or her knowledge of syntax and morphology as well as lexicon. Twenty-five test sentences out of a total of 38 were randomly selected. (The actual proficiency test appears in Appendix F.)

3.2.3. Vocabulary test

A vocabulary test was necessary to ensure that the English-speaking subjects were familiar with words used in certain grammaticality judgment test material. This was particularly important in order to gauge their knowledge of certain semantic properties of Japanese passives since grammaticality status of such passive sentences was conditioned in some cases largely by the lexical properties of words used, particularly verbs. In other words, it was essential to exclude from analyses those subjects who were not familiar with key verbs since it would be impossible to infer from their grammaticality judgments if they had knowledge of the relevant properties of passives. The test was devised specifically for this purpose.

It consisted of a translation task from Japanese to English which required choosing an appropriate English equivalent for a Japanese word from four choices presented in the test and circling it as shown below:

(32) *satugai-suru*

(murder) harm poison assault

This type of test was adopted in view of time constraints. It had six vocabulary items all of which were used in test sentences to characterize the nature of those passive sentences. As shown in the example above, a special effort was made to construct choices of verbs with highly similar meanings, intended to only elicit the subjects' solid lexical knowledge. (The actual vocabulary test appears in Appendix G.) Both the proficiency test and the vocabulary test constituted pre-tests in the present study. A suggested test time of 20 minutes for this portion of the NNS test materials was given on the first page of the pre-test.

3.2.4. Grammaticality judgment test

A grammaticality judgment test was employed to investigate both Japanese-speaking and English-speaking subjects' knowledge of syntactic and semantic properties of Japanese passives. In this test the subjects had to make judgments on sentences using a five point-scale of grammaticality and complete it by circling the response they chose as illustrated below:[7]

(33) Mary-wa John-ga itumo soodan-s-are-ru

Acceptable | Unacceptable | Not Sure

Somewhat Acceptable | Somewhat Unacceptable

In order to ensure that the subjects understand what 'acceptable' and 'unacceptable' sentences were intended to be in the present study, an instruction sheet for the grammaticality judgment test was provided (see Schütze, 1996 for the importance of clarifying for sentence-rating subjects what is meant by acceptability in the theoretical construct.) It was designed to serve the following three purposes (following Bley-Vroman et al., 1988): 1) to inform the subjects that the objective of the test was to seek their intuitions about what constitutes acceptable and unacceptable sentences in Japanese; 2) to illuminate the concepts of 'acceptable' and 'unacceptable', 'somewhat acceptable' and 'somewhat unacceptable' with contrastive pairs of exemplar sentences, stressing that intuitions about acceptable or unacceptable sentences often result from a 'feel' for them rather than knowledge of a rule, and pointing out that different speakers may have different intuitions about a particular sentence; and 3) to provide instruction on test-taking procedures. (The actual instruction sheet is included in Appendix H.)

A total of 84 test sentences (44 grammatical and 40 ungrammatical) were selected for the grammaticality judgment test on the basis of extensive pilot testing of NSs of Japanese. It contained 62 test sentences pertaining to Japanese passives, including 16 sentences devised to investigate knowledge of syntactic properties (6 grammatical and 10 ungrammatical) as well as 46 sentences testing knowledge of semantic properties (26 grammatical and 20 ungrammatical). Additionally, it contained 22 distractors (12

grammatical and 10 ungrammatical). It was expected to take the NNS subjects 45 minutes to over an hour to complete it.

There were two test tokens for each of the syntactic and semantic properties under investigation. More tokens for each sentence type would have been ideal to increase the reliability of the study (Cowan & Hatasa, 1994), but this would have amounted to an unrealistically long test. Considering the fact that the present study is the first of its kind to look closely into English-speaking NNSs' knowledge of Japanese passives, it was decided that the test should encompass a wider range of properties of Japanese passives at the expense of a fewer number of tokens. The distractors were devised to include among other things, (other-than-passive) structures used in test sentences that were important in arriving at correct judgments on passive sentences. Subjects' judgments of such distractor items were taken into account, as with the vocabulary test, at the time of analyses of the relevant passive test sentences.

Test sentences for a given syntactic or semantic property of passives were constructed to be of comparable length and structural complexity; vocabulary items were also carefully chosen so that they were likely to be familiar to the subjects at intermediate and advanced proficiency levels. There were, however, sentences in which some complex structures or highly advanced vocabulary items were necessary to embed certain semantic properties of passives. In these cases, as well as when there was any concern that intermediate-level subjects might not be familiar with certain words used, English glosses were provided for those lexical items. To minimize ordering effects and the potential effects of subjects' fatigue on their judgments, the test sentences were arranged in two random orders with half of the subjects presented each order. (See Birdsong,

1989; Bley-Vroman et al., 1988; Cowan & Hatasa, 1994; Cowart, 1997; Ellis, 1991; Schütze, 1996, for discussions of appropriate measures for controlling subject-internal and -external factors which may increase judgment variability.)

The test sentences were identical for the NS and NNS versions with the following two exceptions: 1) when a proper noun such as a personal name was used in a test sentence, a Japanese name and an English one were used for each version respectively. For example, *Tanaka* 'Mr./Ms. Tanaka' appeared in the Japanese version and *John* in the English version: and 2) in the English version, each test sentence was given both in Japanese and its Romanized equivalent (see Appendix I for the sample grammaticality judgment test sheet in the English version).

3.2.5. Illustrations of test sentences

The following illustrates each of the syntactic and semantic properties of Japanese passives under investigation as well as some distractors with their actual test sentence exemplar(s). (Appendix J provides a complete list of the test sentences used in the grammaticality judgment questionnaire together with their English translations.[8] See also the Introduction for the theoretical framework adopted in the thesis.)

3.2.5.1. Testing the knowledge of syntactic properties of Japanese passives

Test sentences were constructed to investigate subjects' syntactic knowledge of the three types of Japanese passives: the *ni yotte* passive, the *ni* direct passive, and the *ni* indirect passive.[9] The aim was attempted to examine their knowledge of case marking resulting from passivization operations. Empirical evidence in L1 performance data

(including grammaticality judgment data) has revealed that the knowledge (or lack thereof) of syntactic case marking in Japanese reflects the presence (or absence) of knowledge of syntactic operations (including passivization) which underlie such case assignment phenomena (Hagiwara, 1993; Hagiwara & Caplan, 1990; Otsu, 1999; Ryuzaki & Ito, 1999). It would therefore be safe to draw inferences about their knowledge of syntactic operations of passives from that of case assignment phenomena resulting from passivization processes. In the following, test sentences for each type of passive are illustrated in the order given above.

3.2.5.1.1. The *ni yotte* passive

The *ni yotte* passive involves two passivization operations: accusative case absorption and external θ-role suppression, a process identical with English passivization. In brief, in the derivation of the *ni yotte* passive, as a result of the first operation, the internal argument of a verb gets moved to assume the nominative case *ga* rather than the accusative case *o*. On the other hand, due to the second operation (i.e., external θ-role suppression), the external argument of the verb appears as an adverbial *ni yotte* phrase. These operations derive the *ni yotte* passive sentence (34b) below from its active counterpart (34a):

(34) a. biitoruzu-ga utukusii uta-o takusan tukut-ta
the Beatles-NOM beautiful songs-ACC a lot make-Pst
'the Beatles made many beautiful songs'

b. utukusii uta-ga biitoruzu-ni yotte takusan tukur-are-ta
beautiful songs-NOM the Beatles-by a lot make-Pass-Pst
'many beautiful songs were made by the Beatles'

c. *biitoruzu-ni yotte utukusii uta-o takusan tukur-are-ta
-by -ACC

d. *utukusii uta-wa biitoruzu-ga takusan tukur-are-ta
-TOP -NOM

If either of these two operations is absent in the derivation, an ungrammatical sentence results. Indeed, it was attested in Tanaka (1992) that learners of Japanese produce both types of ungrammatical *ni yotte* passive sentences (see (26a) for the lack of external θ-role suppression and (26c) for that of accusative case absorption).

The first type of ungrammatical *ni yotte* passive sentences occurs with the lack of accusative case absorption. The sentence (34c) above shows that the internal argument of the verb *uta* 'song', maintains its original grammatical function as an objective NP as shown by the accusative marker *o* being attached to it. This in turn suggests non-application of the case absorption operation. On the other hand, the external argument *biitoruzu* 'the Beatles', is demoted to the *ni yotte* adverbial phrase, suggesting the proper operation of the external θ-role suppression.

The second type of non-operation is, conversely, concerned with the lack of external θ-role suppression. In the sentence (34d) above, the external argument of the verb *biitoruzu* 'the Beatles', assumes a nominative case *ga*. This retention of *ga*-marking suggests the lack of external argument demotion to the adverbial phrase, i.e., non-application of external θ-role suppression. In contrast, the internal argument, *uta* 'song', has been moved to get *wa*-marked[10] suggesting the proper operation of accusative case absorption.

3.2.5.1.2. The *ni* direct passive

The *ni* direct passive involves two passivization operations: external θ-role suppression and PRO movement. Unlike the *ni yotte* passive, these operations take place under the lower VP domain, i.e., the complement clause of *rare*. Specifically, as a result of external θ-role suppression, the external argument of a lower clause verb demotes to an adverbial *ni* phrase. PRO in turn moves to SPEC of the lower VP to get licensed. These passivization processes are involved in grammatical *ni* passive sentences such as (35a) below:

(35) a. Mary-wa John-ni itumo soodan-s-are-ru
-TOP -by always consult-Pass-Pres
'Mary is affected by being always consulted by John'

b. *Mary-wa John-ga itumo soodan-s-are-ru
-TOP -NOM

When external θ-role suppression is not applied, however, such derivation results in an ungrammatical sentence. It was observed in Tanaka (1992) that learners of Japanese produce this kind of ungrammatical *ni* direct passive sentences (see (26e) for her attested sentence). For instance, sentence (35b) above indicates that the external argument of the lower clause verb, *John*, retains its nominative case marking as opposed to the adverbial *ni* marking in (35a). This suggests that *John* has not undergone the application of the external θ-role suppression operation, rendering sentence (35b) ungrammatical.[11]

3.2.5.1.3. The *ni* indirect passive

The *ni* indirect passive does not involve passivization operations as do the *ni yotte* passive and the *ni* direct passive. Thus, the internal argument of an embedded

clause verb retains its accusative case and the external argument of the verb is *ni*-marked because the external 'affectee' argument of the passive verb must assume the nominative case marker *ga*. These processes lead to the grammatical *ni* indirect passive sentence (36a) below:[12]

(36) a. John-wa kodomo-ni kuruma no mado-o war-are-ta
-TOP child-by car window-ACC break-Pass-Pst
'John was affected by a child breaking the car window'

b. *John-wa kuruma no mado-ga kodomo-ni war-are-ta
-TOP car window-NOM child-by

c. *John-wa kodomo-ga kuruma no mado-o war-are-ta
-TOP child-NOM car window -ACC

Yet it was found in Tanaka (1992) that learners of Japanese produce incorrectly case-marked ungrammatical *ni* indirect passive sentences (see (26g)).

For example, sentence (36b) above suggests that passivization operations have applied in the lower clause, for the internal argument of the lower clause verb *kuruma no mado* 'car window', has moved and been nominative *ga*-marked, resulting from accusative case absorption, and the external argument *kodomo* 'child', has been demoted and adverbial *ni*-marked due to external θ-role suppression. On the other hand, sentence (36c) above indicates that passivization operations have not applied, for the internal argument *kuruma no mado* 'car window', retains its accusative case marker *o,* and the external argument *kodomo* 'child', assumes a nominative case marker *ga*. However, this nominative case marking is in direct conflict with that of the matrix 'affectee' subject *John*, resulting in the ungrammaticality of (36c).

3.2.5.2. Testing the knowledge of semantic properties of Japanese passives

Test sentences were constructed to investigate subjects' semantic knowledge of the three types of passives under investigation.[13] Specifically, the aim was to probe their knowledge of the following semantic properties of Japanese passives which result from a passive subject status difference, i.e., a θ (affectee)-subject versus a non-θ-subject as reflected in the *ni* versus *ni yotte* marking contrast: 1) an adversative reading of the *ni* direct and indirect passives; 2) a grammaticality contrast in perfective versus non-perfective readings; 3) unavailability of an adversative reading of the *ni yotte* passive; 4) verb-induced viewpoint differences. In the following, test sentences for each semantic feature of passives are presented in the order given above.

3.2.5.2.1. An adversative reading of the *ni* direct and indirect passives

It is a widely accepted view that the *ni* indirect passive carries a predominantly adversative reading as illustrated below:

(37) a. John-ga warui toki-ni tomodati-ni ko-rare-ta
-NOM at an inconvenient time friend-by come-Pass-Pst
'John was adversely affected by his friend visiting him at an inconvenient time'

b. *John-ga ii toki-ni tomodati-ni ko-rare-ta
at a convenient time
'*John was adversely affected by his friend visiting him at a convenient time'
(Kuroda 1979, p. 314 & p. 317)

The temporal adverbial phrase of negative connotation, *warui toki ni* 'at an inconvenient time', is consistent with the adversative reading of the *ni* indirect passive sentence (37a); on the other hand, the positive connotation of *ii toki ni* 'at a convenient time' in (37b) is

inconsistent with an adversative reading. Hence the former is grammatical while the latter is rendered ungrammatical.

Similarly, an adversative reading may manifest itself clearly in the *ni* direct passive such as in (38a) below:

(38)

a. Jane-ga mukasi no kare-ni ni-zikan mo mat-arete komat-ta
-NOM ex-boyfriend-by as many as 2 hours wait-Pass annoy-Pst
'Jane was annoyed by being adversely affected by having been waited for by her ex-boyfriend for as many as two hours'

b. * Jane-ga mukasi no kare-ni ni-zikan mo mat-arete uresikat-ta
happy-Pst
'*Jane was happy by being adversely affected by having been waited for by her ex-boyfriend for as many as two hours'

For the same reasons outlined above regarding the grammaticality contrast in the *ni* indirect passive sentences, the *ni* direct passive sentence (38a) is grammatical while (38b) is ungrammatical. This is so because the matrix verb of (38a) *komatta* 'was annoyed', carries a negative connotation consonant with the adversative reading of the *ni* direct passive subordinate clause of (38a); by contrast, the verb in (38b) *uresikatta* 'was happy', connoting positivity, is not consistent with the adversative reading of the *ni* direct passive clause of (38b).

3.2.5.2.2. A grammaticality contrast in perfective versus non-perfective readings[14]

The *ni* direct passive expresses the state of the passive subject somehow affected by the event or state of affairs described by the remaining part of the passive sentence. When it takes an inanimate subject it needs to satisfy a certain condition, e.g., a perfective reading. This is so because a perfective reading makes the above subject-

affectedness connotation readily available since by definition the perfective describes the state resulting from an event or state of affairs entering into its earlier situation (Comrie, 1976; 1981). In a non-perfective reading, by contrast, such an affected state is not expressed straightforwardly. Hence, the *ni* direct passive with an inanimate subject is inconsistent with a non-perfective reading. On the other hand, the *ni yotte* passive with an inanimate subject does not impose such a restriction on possible readings of the passive sentence since it does not express the subject-affected state in the same way as the *ni* direct passive does. Thus, the *ni yotte* passive may be compatible both with perfective and non-perfective readings.

There are two cases where such a perfective versus non-perfective reading contrast is brought about in the *ni* direct and the *ni yotte* passives, namely, *te iru* and *ta* markings.[15] Both cases are illustrated here with test sentences.

The *te iru* form may express either a progressive or a perfective reading. In the case of a progressive reading which does not express the affected state, the *ni yotte* passive sentence with an inanimate subject (39a) is grammatical whereas the *ni* direct passive (39b) is not:

(39)

a.	atarasii konpyuutaa no puroguramu-ga new computer program-NOM	John-ni yotte -by	tukur-are-te iru make-Pass-Prog-Pres
b.	*atarasii konpyuutaa no puroguramu-ga	John-ni -by	tukur-are-te iru

'a new computer program is being made by John'

On the other hand, with the perfective reading, both *ni yotte* and *ni* direct passive sentences, (40a) and (40b), are grammatical as given below:

(40)

a. intaanetto-wa sekai-zyuu no hito-bito-ni yotte tukaw-are-te iru
Internet-TOP all over the world people-by use-Pass-Perf-Pres
'Internet has been used by people all over the world'

b. intaanetto-wa sekai-zyuu no hito-bito-ni tukaw-are-te iru
-by
'Internet is under the state affected by having been used by people all over the world'

Similarly, the *ta* form may carry either a simple past or a perfective reading. In the case of a simple past reading which expresses an event in the past in totality, the *ni yotte* passive sentence with an inanimate subject (41a) is grammatical while the *ni* direct passive (41b) is not:

(41)

a. 'Hamlet'-wa Shakespeare-ni yotte kak-are-ta
'Hamlet'-TOP Shakespeare-by write-Pass-Pst

b. *'Hamlet'-wa Shakespeare-ni kak-are-ta
-by
'Hamlet was written by Shakespeare'

By contrast, with the perfective reading both *ni yotte* and *ni* direct passive sentences (42a) and (42b) are grammatical as shown below:

(42)

a. kimitu-syorui-ga tekikoku no supai-ni yotte nusum-are-ta
secrest documents-NOM spy from an enemy country-by steal-Pass-Perf
'secret documents have been stolen by a spy from an enemy country'

b. kimitu-syorui-ga tekikoku no supai-ni nusum-are-ta
-by
'secret documents are under the state affected by having been stolen by a spy from an enemy country'

3.2.5.2.3. Unavailability of an adversative reading of the *ni yotte* passive

In contrast to the *ni* indirect and direct passives, the *ni yotte* passive cannot carry an adversative reading due to its non-θ-subject status. Therefore, *ni yotte* simply cannot replace *ni* either in the *ni* indirect or the *ni* direct passives connoting an adversative reading as shown below:

(43)

a. (= 37a)

John-ga	warui toki-ni	tomodati-ni	ko-rare-ta
-NOM	at an inconvenient time	friend-by	come-Pass-Pst

b. *John-ga warui toki-ni tomodai-ni yott ko-rare-ta
-by

'John was adversely affected by his friend visiting him at an inconvenient time'

c. (= 38a)

Jane-ga	mukasi no kare-ni	ni-zikan mo	mat-arete	komat-ta
-NOM	ex-boyfriend-by	as many as 2 hours	wait-Pass	annoy-Pst

d. *Jane-ga mukasi no kare-ni yotte ni-zikan mo mat-arete komat-ta
-by

'Jane was annoyed by being adversely affected by having been waited for by her ex-boyfriend for as many as two hours'

Ni passive sentences, both indirect and direct, with an adversative reading such as (43a) and (43c) respectively, are grammatical while their *ni yotte* passive counterparts (43b) and (43d) are ungrammatical.

3.2.5.2.4. Verb-induced viewpoint differences

The last *ni* versus *ni yotte* contrast involves viewpoint differences effected primarily by the choice of the verb used in a passive sentence. There are two cases where different verb choices bring about a difference in viewpoint from which to describe a situation: 1) Japanese native versus Sino-Japanese verbs; and 2) *miru* 'see'-type verbs (referred to as affective verbs).

First, Japanese native verbs together with the contextualization adding up a personal touch are consonant with the *ni* direct passive to express the passive subject's personal and psychological involvement in the event described by the passive sentence. On the other hand, Sino-Japanese verbs along with the contextualization signaling an impersonal touch are consistent with the *ni yotte* passive to indicate a neutral and objective perspective. Thus:

(44) a. Bill-wa kawaii musuko-ni koros-are-ta
-TOP beloved son-by kill-Pass-Pst
'Bill was affected by being killed by his own beloved son'

b. *Bill-wa kawaii musuko-ni yotte koros-are-ta
-by
'Bill was killed by his own beloved son'

c. Bill-wa CIA-ni yotte satugai-s-are-ta
-TOP the CIA-by murder-Pass-Pst
'Bill was murdered by the CIA'

The family tragedy of 'Bill being killed by his own beloved son' would naturally be described by a *ni* direct passive such as (44a) above whereas it sounds much less natural in the *ni yotte* passive sentence (44b). But by replacing *kawaii musuko* 'his own beloved son' with *CIA* (an impersonal agent) and *korosu* 'kill' (a Japanese native verb) with *satugai-suru* 'murder' (a Sino-Japanese verb) to increase the objectivity of the expression, the grammaticality of the *ni yotte* passive sentence (44c) results.

Second, besides the general verb-induced difference illustrated above, there are some verbs (viz. affective verbs) which are compatible with the *ni* direct passive but not with the *ni yotte* passive:

(45)

a. Mary to hanasi-te iru tokoro-o, Bill-ga gaaruhurendo-ni kik-are-ta
talking to Mary as -NOM his girlfriend-by hear-Pass-Pst
'Bill was affected by being heard by his girlfriend as he was talking to Mary'

b. *Mary to hanasi-te iru tokoro-o, Bill-ga gaaruhurendo-ni yotte kik-are-ta
-by

c. gaaruhurendo-ni, Bill-ga Mary to hanasi-te iru tokoro-ga kikoe-ta
his girlfriend-to -NOM talking to Mary as audible-Pst
'Bill was audible to his girlfriend as he was talking to Mary'

The *ni* direct passive sentence (45a) above is grammatical while the *ni yotte* passive counterpart (45b) with the passivized verb *kikareta* 'was heard' is ungrammatical. This is so not only because the passivized verb *kikareta* 'was heard' in itself expresses a psychologically affected state of the passive subject rendering the *ni yotte* passive neutral stance in conflict with such a reading; but also because there exists an unaccusative verb which carries an objective connotation and thus serves as an impersonal version of *kikareru* 'be heard', i.e., *kikoeru* 'be audible' as shown in (45c) above.

Table 3 below summarizes the passive test sentence types under investigation. The left-hand column presents a list of sentence types organized in terms of syntactic and semantic properties of passives manipulated, whereas the right-hand column provides a summary of predicted grammaticality status of each sentence type according to passive types.

Table 3: Passive sentence types syntactically or semantically manipulated with their grammaticality status

Sentence Types[a]	*Passive Types*[b]		
SYNTAX	*Ni yotte*	*Ni* direct	*Ni* indirect
•Proper syntactic operations	√	√	√
•- Case absorption w/+ θ-role suppression	*		
•- θ-role suppression w/+ case absorption	*		
•- θ-role suppression		*	
•+ Passivization			*
•- Passivization			*
SEMANTICS	*Ni yotte*	*Ni* direct	*Ni* indirect
•Adversative reading		√	√
•Non-adversative reading		*	*
•Progressive reading w/*iru*-marking	√	*	
•Perfective reading w/*iru*-marking	√	√	
•Past reading w/*ta*-marking	√	*	
•Perfective reading w/*ta*-marking	√	√	
•Adversative reading w/*ni yotte* marking		*	*
•Personal viewpoint w/Japanese native verb	*	√	
•Objective viewpoint w/Sino-Japanese verb	√		
•Personal viewpoint w/affective verb	*	√	

a. The markings of + and – in the syntax column represent the presence or absence of a relevant syntactic operation.

b. The √- and *-markings in the passive types column stand for predicted grammatical and ungrammatical status, respectively. (Empty cells indicate that there are no test sentences pertinent to a given passive type.)

3.2.5.3. Distractors

Distractors included the following: sentence structures with various kinds of case marking, adverbial *o*, *te iru* perfective, *ta* perfective, and causatives. The adverbial *o*, phonetically identical with the accusative case marker *o*, indicates a temporal or spatial

place where an event or activity denoted by the verb of a sentence takes place. For instance:

(46) Mary-wa hitori de sizuka na kooen-o/*de sanpo-sita
-TOP by herself quiet park-in take a walk-Pst
'Mary took a walk by herself in a quiet park'

In sentence (46) above, the place where Mary took a walk, *kooen* 'parrk', must be marked by the adverbial *o* in place of the postposition *de* which typically marks the place of an activity. The distractor sentence with adverbial *o* was used to sort out NNS subjects according to their correct and incorrect responses since a proper understanding of this adverbial phrase presupposed a grammaticality judgment of test sentences involving one type of verb-induced viewpoint differences.[16]

3.3. Procedures

All participants in the present study, both NSs and NNSs, were studying at various universities in Japan as well as the US and were recruited by instructors whose courses they were taking at the time of data collection. Some NNS participants were contacted through their academic department colleague in a university. All participation was on a voluntary basis and there was no compensation provided for their participation.[17] For the NNS subjects, however, it was hoped that by answering the grammaticality judgment questionnaire, extensive exposure to Japanese passives in various forms would enable them to learn something about these structures.

The NS participants received an envelope containing a general instruction sheet, a consent form, a background information questionnaire, and a grammaticality judgment

test in conjunction with its instruction sheet. The general instruction sheet requested that they carry out each task in the order given above. The grammaticality judgment questionnaire was produced on a set of index card-sized paper. Each of the eighty-four sheets contained one test sentence with the five choices underneath it: 'Acceptable', 'Somewhat Acceptable', 'Somewhat Unacceptable', 'Unacceptable', and 'Not Sure'. They were instructed to decide what they thought about the sentence, circle the relevant choice on the sheet of paper, and place it back in the envelope. An example sheet with a correct response to the item (irrelevant for the present study) was included as the first sheet of the questionnaire set. Additionally, they were told not to refer back to previously answered sheets. They were then informed that there was no time limit and that they could spend as much time on the test as needed, performing it at their leisure. It was expected to take the NS participants 20 to 30 minutes to go through the entire procedure.

Similarly, the NNS participants received an envelope containing a general instruction sheet, a consent form, a background information questionnaire, a set of proficiency and vocabulary tests, and a grammaticality judgment test in conjunction with its instruction sheet. The general instruction sheet stated that they carry out each task in the order given above. Both the pre-test (proficiency and vocabulary) and the grammaticality judgment instruction sheet emphasized the importance of taking the tests by themselves and that it was totally unnecessary to consult any other material such as a dictionary, a grammar reference book, a Japanese NS friend, etc. in completing the procedures. The general procedures for the grammaticality judgment test were the same as the NS version above. It was expected to require an hour to an hour and a half for the NNS participants to complete the entire procedure.

It may have been ideal that a proctor should administer the entire session of data collection. In part this was a trade-off for obtaining a much larger amount of data. As mentioned elsewhere, however, I took careful steps to reduce the possible introduction of unnecessary variables in the absence of a proctor. Moreover, it is not fully clear that supervised questionnaire procedures are best to obtain subjects' metalinguistic judgment data. For instance, Carroll, Bever, & Pollack (1981) showed that the metalinguistic performances of two groups of NSs differed depending on the test-taking conditions arranged for each group. The subjects of one group were tested with a mirror placed in front of them, while there was no mirror facing the subjects of the other group. They attributed the judgment differences evidenced between the two groups to different types of self-awareness induced by the mirror's presence or absence. In the similar vein, it is highly conceivable that the proctor's presence in and of itself introduces certain unnecessary variables for NNS subjects' metalinguistic performances (see also Birdsong, 1989).

3.4. Data coding

The pre-test consisted of a version of the Japanese Language Proficiency Test and a vocabulary test. The JLPT was comprised of 25 question items each of which carried one point. Every NNS subject was assigned his or her JLPT score, equivalent to the total number of questions he or she answered correctly. Since the test was in a multiple-choice format, the possible scores for each item were either one or zero point. The possible JLPT score range was from zero (0%) to 25 points (100%). The vocabulary test was also

in a multiple-choice format containing six questions. Those NNS subjects who did not respond correctly were excluded from analyses of test sentences using such lexical items.

The grammaticality judgment test included 62 test sentences pertaining to Japanese passives together with 22 distractor sentences. There were five choices for each test sentence. When a subject chose the 'acceptable' option, he or she was assigned +2 points for that particular test sentence irrespective of its congruence to the theory prediction. Likewise, -2 points were given to the choice of 'unacceptable', whereas the 'somewhat acceptable', 'not sure', and 'somewhat unacceptable' options counted +1, 0, and -1 point, respectively. When a subject did not respond to a test sentence, he or she was not included in the analysis of that particular item. Subsequently, all subjects' responses to each test sentence were averaged according to groups in order to make them subject to statistical analyses. The range of each mean score was between -2 and +2 points. As in the vocabulary test, some distractor items were used to exclude subjects with incorrect responses from analyses of those test sentences involving linguistic devices used in them.

CHAPTER 4

RESULTS

4.1. Introduction

This chapter presents the results of analyses of the grammaticality judgment data collected from NS and NNS subjects. First, the NSs' data are examined; second, the NNSs' data are analyzed.[1]

4.2. Judgments by native speakers of Japanese

In this section we first examine the grammaticality judgments of passive test sentences, and then turn to distractor sentences. Since Kuroda's (1979) analysis of the semantic properties of passives hinges on the recognition of highly subtle differences in connotation of passive sentences, it is imperative first to establish, prior to proceeding with the investigation of NNSs' judgments, that such semantic as well as syntactic properties of passives are indeed reflected in ordinary NSs' grammaticality judgments. In investigating grammaticality judgments of such delicate nuances in passive sentences, it might also be fruitful to take into consideration the possibility of the presence or absence of NS grammaticality judgment differences between linguists and non-linguists. The findings in the literature are inconclusive as to whether linguist's judgments better reflect a knowledge of language than non-linguist's. That is to say, does linguistic training make a linguist capable of recognizing grammatical nuances which may go unnoticed by a non-linguist, or does a linguist develop an idiosyncratic sense of grammaticality only remotely resembling that held by an ordinary NS?

We examine the grammaticality judgments given by ordinary, viz. linguistically naïve, NSs, followed by those given by linguistically sophisticated NSs in the following two respects: 1) to what extent these two groups' judgments conformed to the predictions of the analyses adopted in the present study; and 2) how consistent their judgments were as a group in assessing the test sentences of each type in question. At the end of the section, some problematic sentences are considered.

4.2.1. Conformity to the theory predictions

We first look at the question of judgment conformity to the theory predictions taking into consideration judgment disagreements between the two NS groups. In so doing we need to identify judgment differences (defined below) between them as well as from the predictions. To qualify as a judgment difference the following two conditions must be met: 1) the judgment of a given test sentence was in disagreement with the prediction[2] and 2) there was a significant mean judgment score difference in rating it between the two groups.

The first condition serves to glean judgments incongruent, both considerably and marginally, to the predictions. The second aims to isolate those judgments in marginal disagreement (defined below) with the predictions from significant and thus actual judgment differences. The marginal disagreement includes cases where one group was in disagreement with the theory prediction about the grammaticality status of a given test sentence while the other group agreed with it, but where there was no statistically significant difference between the two groups' mean judgment scores. Consequently, this particular judgment was disqualified as a significant judgment difference.

For instance, in a hypothetical example, the ungrammatical sentence A was rated on average as -1.5 and +1.5 with a significant difference in the mean score. This counts as one instance of a judgment difference. Namely, one group agreed with the theory prediction while the other disagreed. On the other hand, the grammatical sentence B was rated on average as +1.0 and -.01 with no significant difference. This is regarded as a marginal judgment difference and thus does not count. That is to say, one group agreed with the prediction, but the other did not disagree.

When the judgment difference defined in this way occasioned for a given test sentence, we believe that it is reasonably safe to conclude that the particular judgment one group gave was inconsistent with the theory prediction as well as the other group's judgment.[3]

Table 4 below presents the judgment difference occurrences identified for the linguistically naïve NS group in rating the passive test sentences. The left-hand column of the table summarizes the sentence types grouped together in syntactic and semantic terms as well as their predicted grammaticality status (grammatical or ungrammatical). The right-hand column displays judgment disagreements this group made with theory predictions, summarized according to the passive types (*ni yotte*, *ni* direct, and *ni* indirect passives). Each x in the right-hand column indicates a single occurrence of judgment disagreement in the given area into which it falls. The figure expressed as a denominator in the same column indicates the number of test sentences used for a given area. For instance, the cell in the upper left-hand corner below '*ni yotte*' in the passive types column stands for the area of judgments of 'syntactically' 'grammatical' '*ni yotte*' passive sentences. (There are two passive sentences for this area, indicated by /2.) No x

in this cell shows full agreement with the predictions (i.e., all sentences in this area were judged consistently with the predictions). Similarly, the cell in the lower left-hand corner under '*ni yotte*' represents the area of judgments of 'semantically' 'ungrammatical' '*ni yotte*' passive sentences. (There are nine passive sentences in this area.) Three x's in this cell show that the linguistically naive NS group disagreed with the predictions about three sentences out of nine in this area.

Table 4: Grammaticality judgment disagreements of linguistically naive NSs

Sentence Types	*Passive Types*		
SYNTAX	*Ni yotte*	*Ni* direct	*Ni* indirect
Grammatical	/2	/2	/2
Ungrammatical	/4	/2	/4
SEMANTICS			
Grammatical	/10 x	/9	/4
Ungrammatical	x x x /9	/5	/4

When we look at linguistically naive NSs' judgments of passive sentences, we find that their judgments were rarely in disagreement with the theory predictions. This group only rated four sentences (viz. a total of four x's in the table) differently from the predictions out of 57 test sentences (a 7.02% disagreement rate): one sentence out of 18 for the *ni* direct passive (a 5.56% disagreement rate) and for the *ni yotte* passive three out of 25 sentences (12.0%).[4] These four sentences were all in the semantics area which contains a total of 41 sentences (a 9.76% disagreement rate), and one of them was predicted to be grammatical out of a total of 29 grammatical sentences (a 3.45% disagreement rate), whereas the other three were ungrammatical out of a total of 28 ungrammatical sentences

(10.7%). (See Appendix K for a table with a breakdown of syntactic and semantic sentence types for linguistically naive NSs' judgment disagreements.)

Similarly, Table 5 below displays a summary of the judgment difference occurrences identified for the linguistically sophisticated NS group.

Table 5: Grammaticality judgment disagreements of linguistically sophisticated NSs

Sentence Types	*Passive Types*					
SYNTAX	*Ni yotte*		*Ni* direct		*Ni* indirect	
Grammatical		/2	x	/2	x	/2
Ungrammatical	x x	/4	x x	/2	x	/4
SEMANTICS						
Grammatical	x x x	/10	x x x	/9		/4
Ungrammatical	x x x x x	/9	x x x	/5	x x x	/4

In contrast to the results in Table 4, Table 5 shows that their disagreements with theory predictions are found over most types of passive sentences. In terms of overall sentence tokens, this group judged 24 sentences (viz. a total of 24 x's in the table) differently from the predictions in a total of 57 passive sentences (a 42.11% disagreement rate). In syntactic and semantic terms, there were seven syntactic sentences out of 16 (a 43.75% disagreement rate) and 17 semantic sentences out of 41 (41.46%) on which this group disagreed with the predictions. Furthermore, in light of grammaticality status, this group disagreed with the theory predictions on eight out of 29 grammatical sentences (a 27.59% disagreement rate) and on 16 out of 28 ungrammatical sentences (57.14%). Finally, in examining their judgments according to passive types, there were 10 disagreements out of 25 sentences (a 40% disagreement rate) for the *ni yotte* passive; nine

judgment difference occurrences were found out of 18 (50%) for the *ni* direct passive; and there were five disagreements out of 14 (35.71%) for the *ni* indirect passive. Hence, linguistically sophisticated NSs' judgment disagreements with the theory predictions occasioned approximately 30% to 55% of the time depending on the measures of differences. (See Appendix L for a table with a breakdown of syntactic and semantic sentence types for linguistically sophisticated NSs' judgment disagreements.)

Therefore, it has been found that the linguistically naïve NSs gave grammaticality judgments of the passive test sentences conforming approximately 90% or more to the theory predictions; that is to say, it can safely be concluded that their passive sentence assessments indeed reflected Hoshi (1994a; 1999) and Kuroda's (1979) characterizations of Japanese passives. On the other hand, the linguistically sophisticated NSs agreed with the theory predictions approximately 45% to 70% of the time.

4.2.2. Group judgment consistency

Second, we investigate the question of group judgment consistency; namely, how consistently did linguistically naïve and sophisticated NSs rate two tokens of each passive test sentence type? In doing so, we need to identify their inconsistent responses to two test sentences of each type. Specifically, two responses are classified to be inconsistent when the following two conditions are met: 1) subjects (as a group) judged one of the two as grammatical and the other as ungrammatical; and 2) the two judgment mean scores were significantly different from each other. The first condition excludes cases of consistent judgments. The second condition is necessary to ensure that the judgment inconsistency observed in the first condition was large enough in mean score terms to

indicate their non-marginal contradictory judgments. Since there are 27 (syntactic or semantic) passive sentence pairs in question, there are a total of 27 cases where such inconsistent judgments may have occurred.

Tables 6 and 7 below summarize the two NS groups' inconsistent judgments in rating pairs of passive test sentences. As in Tables 4 and 5 above, the left-hand column of the tables summarizes the sentence types grouped together in syntactic and semantic terms as well as their respective predicted grammaticality status (grammatical and ungrammatical). The right-hand column displays judgment inconsistency occurrences summarized according to the passive types (*ni yotte*, *ni* direct, and *ni* indirect passives). Each # under the passive types columns indicates a single occurrence of inconsistent judgments of a sentence pair. The figure expressed as a denominator in the same columns shows the number of sentence pairs formed in a given area. (There are two tokens for each sentence type.) For example, a single # in the third row under '*ni* direct' in Table 6 shows that there was a single judgment inconsistency occurrence in the area of 'semantically' 'grammatical' '*ni* direct' passive sentence pairs; namely, the linguistically naive NS group judged one of the four sentence pairs in this area inconsistently. Empty cells in these tables indicate that sentence pairs in a given area were judged consistently.

Table 6: Grammaticality judgment inconsistency of linguistically naive NS group

Sentence Types	*Passive Types*					
SYNTAX	*Ni yotte*		*Ni* direct		*Ni* indirect	
Grammatical		/1		/1		/1
Ungrammatical		/2		/1		/2
SEMANTICS						
Grammatical		/5	#	/4		/2
Ungrammatical	#	/4		/2		/2

Table 7: Grammaticality judgment inconsistency of linguistically sophisticated NS group

Sentence Types	*Passive Types*					
SYNTAX	*Ni yotte*		*Ni* direct		*Ni* indirect	
Grammatical		/1	#	/1		/1
Ungrammatical		/2		/1	#	/2
SEMANTICS						
Grammatical	# #	/5	#	/4		/2
Ungrammatical	#	/4	#	/2	#	/2

It is apparent from Tables 6 and 7 that the two groups differed in terms of how inconsistent their responses were in rating two test sentences of each type. There were only two cases (a total of two #'s in Table 6) out of 27 (a 7.41% inconsistent rate) where the linguistically naïve group responded inconsistently. These cases were both in semantic areas, and were equally distributed over grammaticality status (one grammatical and one ungrammatical). One was for the *ni yotte* passive and the other for the *ni* direct passive. In contrast, there were eight cases (a total of eight #'s in Table 7) out of 27 (a 29.63% inconsistent rate) where the linguistically sophisticated group made inconsistent

judgments. They occasioned widely across syntactic and semantic areas (two syntactic and six semantic), grammaticality status (half grammatical and half ungrammatical), and types of passives (three for the *ni yotte* passive, three for the *ni* direct passive, and two for the *ni* indirect passive). (See Appendices M and N for tables with a breakdown of syntactic and semantic sentence types for linguistically native and sophisticated NS groups' judgment inconsistencies.)

Thus, in light of group judgment consistency, the linguistically naïve group has been found more consistent in judging the test sentences of passives than the linguistically sophisticated one.

4.2.3. Judgments of distractor sentences

Next, we look at the two groups' judgments of the distractor sentences and unaccusatives[5]. Since the distractor items generally deal with syntactically (and semantically) basic structures in comparison to the passive ones, their judgments of these items are expected to be similar to or better than those found for the passive test sentences. As examined above for the passive test sentences, we inspect how differently one group rated them from the theory predictions, taking into consideration judgment disagreements with the other group. The linguistically naïve group only rated two test sentences out of 24 (8.33%) contradictory to the predictions with a significant difference from the linguistically sophisticated group. On the other hand, the latter group judged 10 out of 24 test sentences (a 41.67% disagreement rate) in disagreement with the predictions with a significant difference from the former group. Hence, in judgment of the distractor sentences, both the linguistically naïve and the sophisticated groups

demonstrated prediction-agreement rates comparable to those found for the passive sentences. This in turn shows that they behaved properly on the task of judging the passive test sentences.

Although the linguistically naïve and sophisticated NSs of the present study evinced rather distinct judgments about the test sentences, there was one aspect of judgment patterns both groups had in common; namely, their judgments tended to be expressed in a self-assured manner. The absolute judgments, i.e., the options of 'grammatical' and 'ungrammatical', accounted for a large majority of their judgments, e.g., 76.78% (62.19 cases out of 81 on average) for the former group and 75.54% (61.19 cases out of 81 on average) for the latter group. Moreover, both groups rarely opted for the 'unsure' option: .80% (.65 case in 81 on average) for the naïve group and 1.11% (.90 case out of 81 on average) for the sophisticated group (see Bley-Vroman et al., 1988 for similar findings on NSs' judgment characteristics). These findings imply that the two groups were not heterogeneous in judgment characteristics and provide some evidence against the possible concern that the linguistically sophisticated group of the present study exhibited eccentric judgment patterns and should not be considered representative of a group of NSs with linguistic training.

4.2.4. Summary of native speakers' grammaticality judgments

On the whole, it has been convincingly demonstrated that ordinary (defined as linguistically naïve) NSs judged the passive test sentences which were either semantically or syntactically manipulated according to Hoshi (1994a; 1999) and Kuroda's (1979) theory predictions. Furthermore, in all three terms examined above, i.e., judgment

congruence to the theory predictions on passive as well as distractor test sentences, and group judgment consistency, the linguistically naïve group demonstrated better performances than the linguistically sophisticated group.

4.2.5. Consideration of some problematic test sentences

A set of three test sentences requires special consideration before proceeding. It concerns *ni* direct and *ni yotte* direct passive sentences with an adversative reading, given below:

(47)

a. zannen na koto ni, Tokyo daigaku-wa Tanaka-kyoozyu-ni yammer-are-ta
unfortunately Tokyo University -NOM Prof. Tanaka-by quit-Pass-Pst
'unfortunately, Tokyo University was adversely affected by being quit by Prof. Tanaka'

b. *zannen na koto ni,Tokyo daigaku-wa Tanaka-kyoozyu-ni yotte yammer-are-ta
-by

c. *saiwai na koto ni, Tokyo daigaku-wa Tanaka-kyoozyu-ni yammer-are-ta
fortunately Tokyo University -NOM Prof. Tanaka-by quit-Pass-Pst
'fortunately, Tokyo University was adversely affected by being quit by Prof. Tanaka'

Despite Howard & Niyekawa-Howard's (1976) assertion of sentence (47a) above (without the phrase *zannen na koto ni* 'unfortunately') as an example of the *ni* direct passive with an adversative reading and Spees's (1992) empirical finding that NSs of Japanese indeed tend to read an adversative connotation in the *ni* direct passive, it was judged as ungrammatical both by the linguistically naïve group (a mean judgment score of -.84) and the linguistically sophisticated group (that of -1.38). In subjects-proportion terms, 74.19% of the former group (23 out of 31 subjects) and 85.71% of the latter group (18 out of 21 subjects) rated it as ungrammatical.

It appears that the problem with this test item lay in the interpretation of the sentence subject. An inspection of the notes some subjects left on questionnaire sheets indicated that they conceived the sentence subject, Tokyo University, as an inanimate entity, which renders the sentence as ungrammatical due to the incompatibility between the insentient subject and an adversative reading. It was perhaps unclear to them how the insentient institution, Tokyo University, was able to be adversely affected. In Howard & Niyekawa-Howard's (1976) interpretation, on the other hand, it was considered to be an animate entity, say, the university community, which was adversely affected by Prof. Tanaka's quitting; and thus the sentence was rendered as grammatical.

Since the other two sentences (47b) and (47c) had been contrived on the basis of the grammaticality of sentence (47a), it would be extremely difficult to infer on what basis subjects judged these two sentences when they apparently did not interpret sentence (47a) in the intended sense. Both sentences (47b) and (47c) (expected to be rejected)[6] were rejected as ungrammatical by the linguistically naive group (mean judgment scores of -1.58 and -1.13) whereas the linguistically sophisticated group judged (47b) as grammatical (score of 1.76) and (47c) as ungrammatical (score of -1.43). But because it is unclear if they rejected them on the intended basis, it was decided to exclude this set of test sentences from the analyses.[7,8]

4.3. Judgments by English-speaking learners of Japanese

In this section we analyze the grammaticality judgments given by the NS control group (referred to as Group 1) and three NNS groups, namely, the highly advanced group (Group 2), the low advanced group (Group 3), and the intermediate group (Group 4).

First, judgments concerning syntactic properties of Japanese passives are examined, followed by analysis of those on semantic properties.

4.3.1. Judgments of three syntactic types of passives

In the following we attempt to determine which type of passive was judged more accurately than others by examining all groups' judgments of grammatical as well as ungrammatical sentences. Then, we investigate more specifically which violated syntactic operation of passivization was difficult to judge as improper.

4.3.1.1. Grammatical judgments of three syntactic types of passives

We examine subjects' (both NSs' and NNS learners') judgments of grammatical sentences of three syntactic types of passives, i.e., the *ni yotte*, the *ni* direct, and the *ni* indirect passives, in order to identify which type of passive was judged higher (thus more accurately). We turn first to how each group judged each type of passive relative to the others and second, compare judgments by learners' groups to those of NSs' to find out how close the former groups approximated the latter in judgment of each type of passive.

For the sake of exposition, example sentences of the three syntactic types of passives are repeated below in the order of the *ni yotte*, the *ni* direct, and the *ni* indirect passive:

(48)

a.	utukusii uta-ga	biitoruzu-ni yotte	takusan	tukur-are-ta
(= (34b))	beautiful songs-NOM	the Beatles-by	a lot	make-Pass-Pst
	'many beautiful songs were made by the Beatles'			

b.	Mary-wa	John-ni	itumo	soodan-s-are-ru
(= (35a))	-TOP	-by	always	consult-Pass-Pres
	'Mary is affected by being always consulted by John'			

c.	John-wa	kodomo-ni	kuruma no mado-o	war-are-ta
(= (36a)	-TOP	child-by	car window-ACC	break-Pass-Pst
	'John was affected by a child breaking the car window'			

Table 8 presents all groups' mean judgment scores for each type of passive and their respective standard deviations together with the number of subjects in each group. Figure 2 displays the statistically estimated means of judgment scores of the four groups for three types of passives. Each line represents the mean ratings of each group. The figures on the y-axis signify the grammaticality rating scale (within the range of +2 to -2). Numbers 1, 2, and 3 on the x-axis indicate the judgments of the *ni yotte* passive, the *ni* direct passive, and the *ni* indirect passive, respectively. As shown in Figure 2, across each of the learners' groups, the *ni* direct passive was judged higher than the other two, whereas *ni yotte* and *ni* indirect passives were judged similarly.

Table 8: Grammatical judgments of three syntactic types of passives

Sentence Types	*Groups*	*Mean*	*SD*	*N*
ni yotte passive[a]	1	1.21	.79	31
	2	.80	1.30	25
	3	.17	1.45	36
	4	.15	1.26	20
ni direct passive[b]	1	1.85	.35	31
	2	1.66	.62	25
	3	1.43	.79	36
	4	.83	1.24	20
ni indirect passive[c]	1	1.85	.35	31
	2	.98	1.31	25
	3	.39	1.32	36
	4	.25	1.19	20

a., b., c. The test sentences for *ni yotte*, *ni* direct and *ni* indirect passives include #47 and #50; #53 and #55; and #57 and #60, respectively.[9]

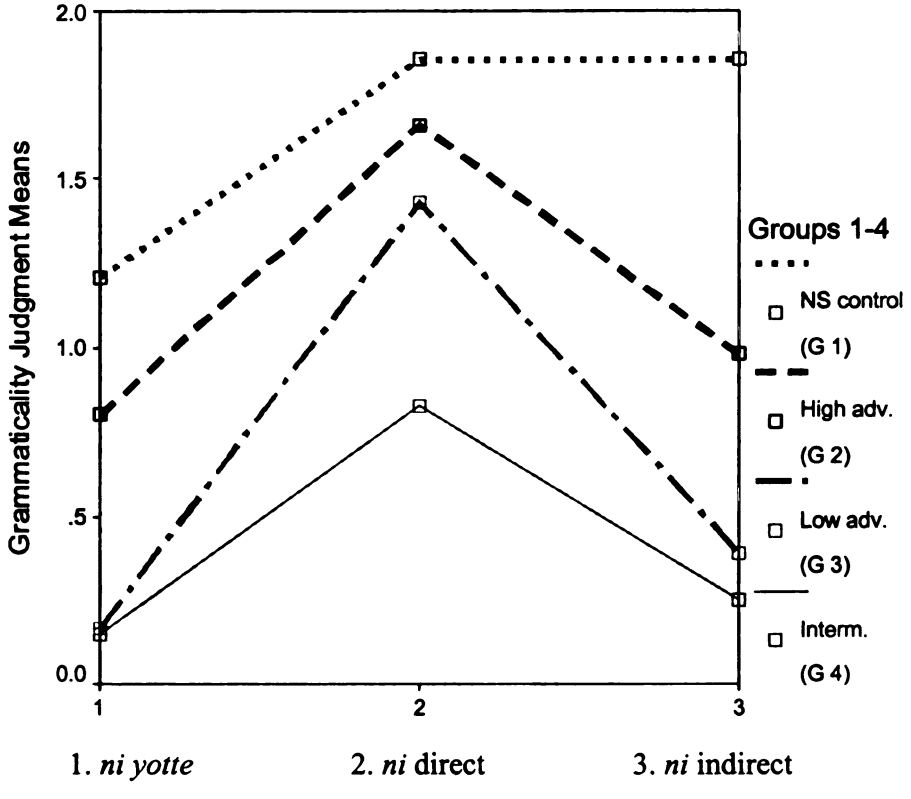


Figure 2: Three syntactic types of passives

A Repeated-Measures ANOVA was performed on the three syntactic types of passives as a within-subjects variable and on the four groups as a between-subjects variable. Significant main effects were found both in passive-types ($F(2, 216) = 21.491, p < .0005$) and groups ($F(3, 108) = 17.154, p < .0005$); yet there was no significant interaction effect between passive-types and groups ($F(6, 216) = 1.819, p = .101$).

For the purpose of identifying the precise nature of these main effects, first, a Repeated-Measures ANOVA for each group on the three syntactic types of passives was run. The results for Group 1 showed that there was a passive-type main effect ($F(2, 60) = 15.579, p < .0005$). Tests of within-subjects contrasts showed that both the *ni* direct and the *ni* indirect passives were judged significantly higher than the *ni yotte* passive, but that there was no significant difference in judgment between the *ni* direct and the *ni* indirect passives.[10] The ANOVA results for Group 2 indicated that there was a passive-type main effect ($F(2, 48) = 4.966, p = .011$). Tests of within-subjects contrasts indicated that the *ni* direct passive was judged significantly higher than both *ni yotte* and *ni* indirect passives whereas there was no significant difference in judgment between *ni yotte* and *ni* indirect passives. Group 3's judgments exhibited identical patterns to Group 2's. The results for Group 3 showed that there was a passive-type main effect ($F(2, 70) = 12.765, p < .0005$). Tests of within-subjects contrasts demonstrated that the *ni* direct passive was rated significantly higher than both *ni yotte* and *ni* indirect passives, but that there was no significant judgment difference between *ni yotte* and *ni* indirect passives. On the other hand, the Group 4 ANOVA results showed that no significant main effect was found for three syntactic types of passives ($F(2, 38) = 2.023, p = .146$), suggesting that Group 4 subjects did not judge any one type of passive higher than the other two.

In all, the *ni* direct passive was judged higher than both *ni yotte* and *ni* indirect passives by all learners' groups except for Group 4 (which did not make any differential judgments of the three types of passives). On the other hand, *ni yotte* and *ni* indirect passives were rated indiscriminately in grammaticality by learners' groups.

Second, a Oneway ANOVA for each syntactic type was conducted on all four subject groups to explore how closely Groups 2, 3, and 4 (the learners' groups) approximated Group 1's (the NS control group) judgments. There was a significant difference between groups in judging the *ni yotte* passive ($F(3, 108) = 5.154, p = .002$). The Tukey HSD results showed that Group 2 was not significantly different from Group 1, but that Groups 3 and 4 were significantly different from Group 1. A significant difference was also found between groups in judging the *ni* direct passive ($F(3, 108) = 7.814, p < .0005$). The Tukey HSD results indicated that Groups 2 and 3 were not significantly different from Group 1 whereas Group 4 judged significantly differently from Group 1. Finally, there was a significant difference between groups in judging the *ni* indirect passive ($F(3, 108) = 12.560, p < .0005$). The Tukey HSD results showed that all learners' groups were significantly different from Group 1 in judging this type of passive.

Overall, the *ni* direct passive was judged by Groups 2 and 3 without significant difference from Group 1 whereas only Group 2 rated the *ni yotte* passive without significant difference from Group 1. Lastly, the *ni* indirect passive was judged by all three learners' groups significantly differently from Group 1.

In sum, in examining how each learners' group judged the three syntactic types of passives, the following two results were obtained: 1) the *ni* direct passive was judged

higher than the other two types of passives by the highly advanced and the low advanced groups; 2) *ni yotte* and *ni* indirect passives were not judged differently by any group. Next, the following three results were found by investigating whether learners' groups' judgments of each syntactic type of passive approximated those of the NS group: 1) in judging the *ni* direct passive the highly advanced and the low advanced groups approximated the NS group; 2) in rating the *ni yotte* passive only the highly advanced group did so; 3) in judging the *ni* indirect passive no group successfully did so.

4.3.1.2. Ungrammatical judgments of three syntactic types of passives

We now address the question of which type of passive was judged more accurately than the other(s) by examining subjects' judgments of ungrammatical sentences of three syntactic types of passives. Specifically, we investigate for which type of passive each group made a grammaticality distinction between ungrammatical and grammatical sentences.

First, we look at the *ni* direct passive. For exposition purposes, examples of its grammatical and ungrammatical sentences are provided in (49) below (the ungrammatical example of (49b) results from the lack of θ-role suppression):

(49) (= (35)) a. Mary-wa John-ni itumo soodan-s-are-ru
-TOP -by always consult-Pass-Pres
'Mary is affected by being always consulted by John'

b. *Mary-wa John-ga itumo soodan-s-are-ru
-TOP -NOM

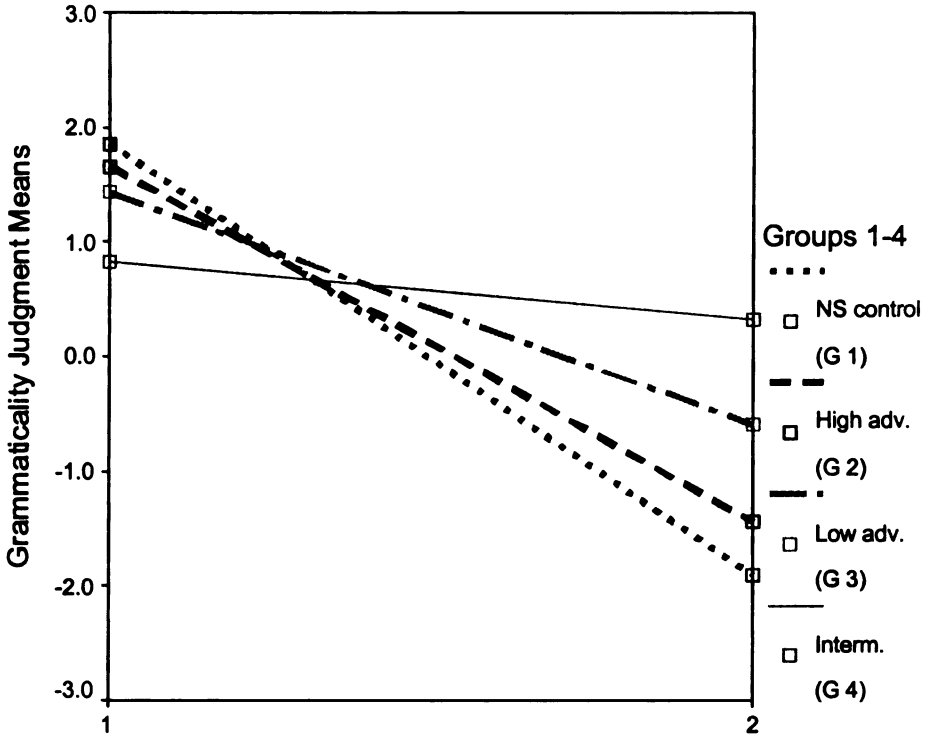
Table 9 gives all groups' mean judgment scores for the grammatical and ungrammatical sentences of the *ni* direct passive as well as their respective standard

deviations together with the number of the subjects of each group. Figure 3 displays statistically estimated means of judgment scores of the four groups for the grammatical and ungrammatical *ni* direct passive sentences. Each line represents the mean ratings of each group. The figures on the y-axis signify the grammaticality rating scale (within the range of +2 to -2). Numbers 1 and 2 on the x-axis indicate the judgments of the grammatical and ungrammatical *ni* direct passive sentences, respectively. As demonstrated in Figure 3, Groups 1, 2, and 3 correctly judged the grammatical and ungrammatical sentences of the *ni* direct passive accordingly. It is also indicated that the more advanced subject groups made a more pronounced distinction in judging them than their less advanced counterparts. Group 4 rated grammatical and ungrammatical sentences similarly (i.e., both as grammatical).

Table 9: Grammatical vs. ungrammatical judgments of the *ni* direct passive

Sentence Types	*Groups*	*Mean*	*SD*	*N*
Grammatical[a]	1	1.85	.35	31
	2	1.66	.62	25
	3	1.43	.79	36
	4	.83	1.24	20
Ungrammatical[b]	1	-1.90	.37	31
	2	-1.44	1.08	25
	3	-.60	1.45	36
	4	.33	1.55	20

a., b. The test sentences for the grammatical and ungrammatical *ni* direct passives include #53 and #55, and #54 and #56, respectively.



1. grammatical (GR) 2. ungrammatical (UG)

Figure 3: The *ni* direct passive (GR vs. UG)

A Repeated-Measures ANOVA was performed on the two types of sentences (grammatical and ungrammatical) as a within-subjects variable and on groups as a between-subjects variable. A significant main effect was found in sentence-types ($F(1, 108) = 327.870, p < .0005$). As expected from Figure 3, there was a significant interaction effect between sentence types and groups ($F(3, 108) = 27.178, p < .0005$). Thus, a Repeated-Measures ANOVA for each group on the two sentence types was run. The results for Group 1 showed that there was a significant sentence-type main effect ($F(1, 30) = 1766.453, p < .0005$), reflecting that Group 1 subjects made an extremely clear distinction in judging the grammatical and ungrammatical sentences. The ANOVA results of Group 2 indicated a significant sentence-type main effect ($F(1, 24) = 153.760$,

$p < .0005$), suggesting that Group 2 subjects made highly distinctive judgments in grammaticality between two types of sentences. The results for Group 3 showed a significant sentence-type main effect ($F(1, 35) = 55.726, p < .0005$), indicating that Group 3 subjects also made an unambiguous distinction in grammaticality between them. Finally, in Group 4's judgments, there was no significant sentence-type main effect ($F(1, 19) = 1.712, p = .206$), reflecting that Group 4 subjects made no grammaticality distinction between the grammatical and ungrammatical sentences.

In all, Groups 2 and 3 made a clear-cut distinction in judging the grammatical and ungrammatical sentences of the *ni* direct passive; on the other hand, Group 4 did not make differential judgments between the two.

Second, we turn to the *ni yotte* passive. Examples of its grammatical and ungrammatical sentences are given in (50) below (the first ungrammatical type (50b) results from the lack of accusative case absorption, while the second (50c) from the lack of θ-role suppression):

(50) (= (34)) a. utukusii uta-ga biitoruzu-ni yotte takusan tukur-are-ta
beautiful songs-NOM the Beatles-by a lot make-Pass-Pst
'many beautiful songs were made by the Beatles'

b. *biitoruzu-ni yotte utukusii uta-o takusan tukur-are-ta
-by -ACC

c. *utukusii uta-wa biitoruzu-ga takusan tukur-are-ta
-TOP -NOM

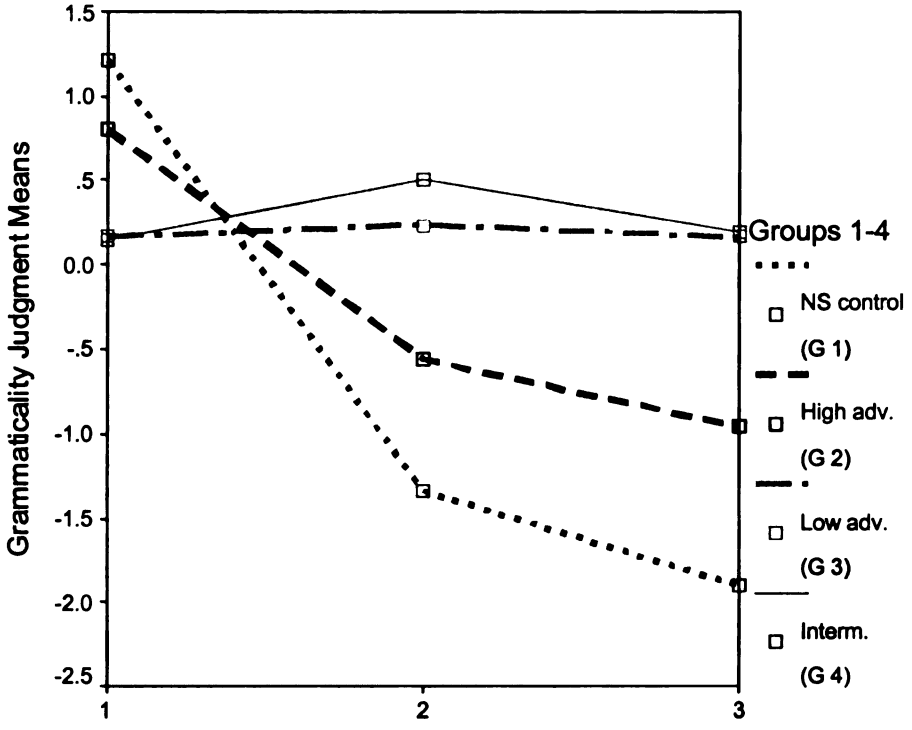
Table 10, as before, provides the statistical data on all groups' judgments of grammatical and two types of ungrammatical sentences of the *ni yotte* passive. 'Ungrammatical 1 and 2' in the sentence types column represent the ungrammatical

sentence types given in (50b) and (50c) above, respectively. Figure 4 exhibits them graphically. Numbers 1, 2, and 3 on the x-axis indicate the judgments of grammatical and two types of ungrammatical *ni yotte* passive sentences, respectively. As shown in Figure 4, Groups 1 and 2 appear to demonstrate an identical judgment pattern, but by different degrees where they judged the grammatical and ungrammatical sentences accordingly. In contrast, Groups 3 and 4 seem to pattern similarly in that they did not make a grammaticality distinction between the grammatical and ungrammatical ones.

Table 10: Grammatical vs. ungrammatical judgments of the *ni yotte* passive

Sentence Types	*Groups*	*Mean*	*SD*	*N*
Grammatical[a]	1	1.21	.79	31
	2	.80	1.30	25
	3	.17	1.45	36
	4	.15	1.26	20
Ungrammatical 1[b]	1	-1.34	.95	31
	2	-.56	1.42	25
	3	.24	1.53	36
	4	.50	1.09	20
Ungrammatical 2[c]	1	-1.90	.33	31
	2	-.96	1.14	25
	3	.17	1.52	36
	4	.20	.95	20

a., b., c. The test sentences for the grammatical and ungrammatical *ni yotte* passives include #47 and #50; and #48 and #51 (for Ungrammatical 1) as well as #49 and #52 (for Ungrammatical 2), respectively.



1. grammatical (GR) 2. ungrammatical (UG 1) 3. ungrammatical (UG 2)

Figure 4: The *ni yotte* passive (GR vs. UG)

A Repeated-Measures ANOVA for all groups was performed on the three types of sentences: one grammatical and two ungrammatical. There was a significant sentence-type main effect ($F(2, 216) = 31.199, p < .0005$) as well as a significant interaction effect between sentence types and groups ($F(6, 216) = 15.219, p < .0005$). Thus, a Repeated-Measures ANOVA on sentence types was performed on each group. The results for Group 1 showed that there was a significant sentence-type main effect ($F(2, 60) = 194.516, p < .0005$). Tests of within-subjects contrasts demonstrated that the grammatical sentences were judged significantly differently from both types of ungrammatical sentences, reflecting that Group 1 subjects made a highly distinctive differentiation between the grammatical and two types of ungrammatical sentences. The

ANOVA results of Group 2 indicated a significant sentence-type main effect ($F(2, 48) = 15.297, p < .0005$). Tests of within-subjects contrasts revealed that the grammatical sentences were judged differently from both types of ungrammatical sentences, suggesting that Group 2 subjects also made a good distinction in grammaticality between them. The results for Groups 3 and 4 showed that there was no sentence-type main effect for either ($F(2, 70) = .026, p = .958$ for Group 3; $F(2, 38) = .745, p = .482$ for Group 4), showing that Groups 3 and 4 subjects did not make any distinction in judging between the grammatical and ungrammatical sentences.

Overall, Group 2 made a clear grammaticality distinction in judging the grammatical and the two types of ungrammatical sentences (where either accusative case absorption or θ-role suppression did not take place) of the *ni yotte* passive; on the other hand, Groups 3 and 4 did not make differential judgments of them.

Third, we look at the *ni* indirect passive. Examples of its grammatical and ungrammatical sentences are found in (51) below (the first ungrammatical type (51b) results from its lower clause being unpassivized, while the second one (52c) from passivized):

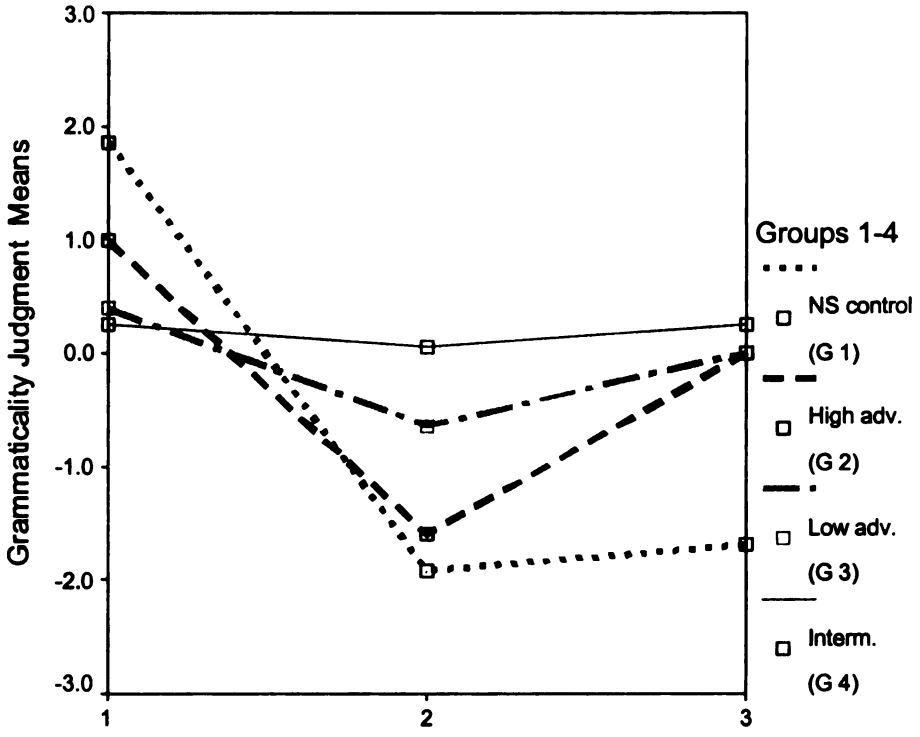
(51) (= (36))	a.	John-wa -TOP	kodomo-ni child-by	kuruma no mado-o car window-ACC	war-are-ta break-Pass-Pst
		'John was affected by a child breaking the car window'			
	b.	*John-wa -TOP	kodomo-ga child-NOM	kuruma no mado-o car window -ACC	war-are-ta
	c.	*John-wa -TOP	kuruma no mado-ga car window-NOM	kodomo-ni child-by	war-are-ta

Table 11 gives the statistical data on all groups' judgments of the grammatical and two types of ungrammatical sentences of the *ni* indirect passive. 'Ungrammatical 1 and 2' in the sentence types column represent the ungrammatical sentence types given in (51b) and (51c) above, respectively. Figure 5 illustrates them graphically where numbers 1, 2, and 3 on the x-axis indicate the judgments of the grammatical sentences as well as ungrammatical sentences 1 and 2, respectively. Figure 5 shows that in judgment of the grammatical sentences and ungrammatical sentences 1, as with the *ni yotte* passive, Groups 1 and 2 made a clear distinction in grammaticality between them. Group 3 showed a weak distinction whereas Group 4 did not. On the other hand, there seems to be a considerable difference in judging ungrammatical sentences 2 between Group 1 and the other groups.

Table 11: Grammatical vs. ungrammatical judgments of the *ni* indirect passive

Sentence Types	*Groups*	*Mean*	*SD*	*N*
Grammatical[a]	1	1.85	.35	31
	2	.98	1.31	25
	3	.39	1.32	36
	4	.25	1.19	20
Ungrammatical 1[b]	1	-1.92	.37	31
	2	-1.60	.68	25
	3	-.64	1.31	36
	4	.05	1.19	20
Ungrammatical 2[c]	1	-1.69	.68	31
	2	4.29×10^{-17}	1.55	25
	3	2.90×10^{-17}	1.44	36
	4	.25	.99	20

a., b., c. The test sentences for the grammatical and ungrammatical *ni* indirect passives include #57 and #60; and #58 and #61 (for Ungrammatical 1) as well as #59 and #62 (for Ungrammatical 2), respectively.



1. grammatical (GR) 2. ungrammatical (UG 1) 3. ungrammatical (UG 2)

Figure 5: The *ni* indirect passive (GR vs. UG)

A Repeated-Measures ANOVA for all groups was performed on the three types of sentences: one grammatical and two ungrammatical. There was a significant sentence-type main effect ($F(2, 216) = 97.503, p < .0005$) as well as a significant interaction effect between sentence types and groups ($F(6, 216) = 25.262, p < .0005$). Thus, a Repeated-Measures ANOVA for each group was performed on the three sentence types. The results for Group 1 showed a significant sentence-type main effect ($F(2, 60) = 568.076, p < .0005$). Tests of within-subjects contrasts demonstrated that the grammatical sentences were judged significantly differently from both types of ungrammatical sentences, indicating that Group 1 subjects made a clear-cut grammaticality distinction in judging the grammatical and ungrammatical sentences. The results for Group 2 indicated a

significant sentence-type main effect ($F(2, 48) = 30.983, p < .0005$). Tests of within-subjects contrasts showed that the grammatical sentences were judged differently from both types of ungrammatical sentences; however, ungrammatical sentences 2 (a mean judgment score of 4.29×10^{-17}) were rated significantly higher than ungrammatical sentences 1 (a mean judgment score of -1.60). Thus, these findings suggest that Group 2 subjects made differential judgments in grammaticality between the grammatical sentences and ungrammatical sentences 1, but that they failed to reject ungrammatical sentences 2 as ungrammatical. The results for Group 3 displayed a significant sentence-type main effect ($F(2, 70) = 5.973, p = .004$). Tests of within-subjects contrasts indicated that ungrammatical sentences 1 were judged significantly differently from the grammatical sentences whereas ungrammatical sentences 2 were not rated differently from the grammatical ones. This shows that Group 3 subjects made a distinction in grammaticality between the grammatical sentences and ungrammatical sentences 1, but not between the grammatical ones and ungrammatical sentences 2. Finally, in Group 4's judgments, there was no significant sentence-type main effect ($F(2, 38) = .414, p = .664$), suggesting that Group 4 subjects did not make any distinctions in judging the three types of sentences.

In short, Groups 2 and 3 made a grammaticality distinction in judging the grammatical sentences and ungrammatical sentences 1 (where the lower clause was not passivized) of the *ni* indirect passive. On the other hand, in judging ungrammatical sentences 2 (where the lower clause was passivized), Groups 2 and 3 failed to do so. Group 4 did not make any differential judgments between the three.

In summary, when the judgments of the ungrammatical sentences of the three syntactic types of passives were considered with respect to those of grammatical counterparts, the following three results were obtained: 1) in judging the *ni* direct passive the highly advanced and the low advanced groups made grammatical versus ungrammatical distinctions; 2) in rating the *ni yotte* passive only the highly advanced group discriminated between the grammatical and two types of ungrammatical sentences; 3) in judging the *ni* indirect passive both the highly advanced and the low advanced groups made a grammaticality differentiation between the grammatical and one of the two ungrammatical sentence types, but for the other ungrammatical sentence type, they did not make a grammaticality distinction. (See the following section for further investigation of the nature of judgments of these ungrammatical sentences.)

4.3.1.3. Judgments of improper syntactic operations

The previous section compared the subjects' judgments of the ungrammatical sentences to the grammatical ones. In this section we investigate their judgments of the ungrammatical sentences of the three syntactic types of passives from a different perspective. Specifically, we investigate which syntactic operation of passivization was difficult to judge as improper when it was violated. In doing so, the ungrammatical sentences were classified into the following three cases depending on the kind(s) of passivization processes involved: 1) the *ni* direct and indirect passive sentences where external θ-role was not suppressed; 2) *ni yotte* passive sentences in which either external θ-role suppression or accusative case absorption did not take place; and 3) *ni* indirect passive sentences in which passivization either took place or did not. There are two types

of ungrammatical sentences in each of the three cases. These two ungrammatical types in each case are analyzed in terms of how one type of ungrammatical sentences was judged with respect to the other, and how closely the NNS groups approximated the NS control group.

First, with respect to the ungrammatical sentences of the *ni* direct and indirect passives where their external θ-roles were not suppressed, examples of both types are provided below, i.e., (52a) for the *ni* direct passive and (52b) for the *ni* indirect passive (the English glosses indicate their intended meanings):

(52)

a. (= (35b)) *Mary-wa John-ga itumo soodan-s-are-ru
-TOP -NOM always consult-Pass-Pres
'Mary is affected by being always consulted by John'

b. (= (36c)) *John-wa kodomo-ga kuruma no mado-o war-are-ta
-TOP child-NOM car window-ACC break-Pass-Pst
'John was affected by a child breaking the car window'

Table 12 shows the statistical data of subjects' judgments of these ungrammatical sentences for all groups. (The asterisk attached to the passive type in the table stands for its predicted ungrammaticality status.) As is clearly shown, the subjects' mean judgment scores and their proficiency levels are in an inverse relationship and parallel for both types of passives. That is to say, these ungrammatical sentences were rated more strongly ungrammatical as the subjects' proficiency levels increased.

Table 12: The *ni* direct and indirect passives without θ-role suppression

Sentence Types	*Groups*	*Mean*	*SD*	*N*
**ni* direct passive[a]	1	-1.90	.37	31
	2	-1.44	1.08	25
	3	-.60	1.45	36
	4	.33	1.55	20
**ni* indirect passive[b]	1	-1.92	.37	31
	2	-1.60	.68	25
	3	-.64	1.31	36
	4	.05	1.19	20

a., b. The test sentences for *ni* direct and indirect passives include #54 and #56; and #58 and #61.

A Repeated-Measures ANOVA for all groups was performed on both types of passives. The results indicated that there was no passive-type main effect ($F(1, 108) = 1.154, p = .285$), nor was there an interaction effect between passive types and groups ($F(3, 108) = .248, p = .863$). A significant group main effect was found ($F(3, 108) = 26.561, p < .0005$), however. The Tukey HSD results showed that Groups 1 and 2 were indistinguishable from each other and that Groups 3 and 4 were significantly different both from each other and from Groups 1 and 2.

In brief, these findings suggest that learners' groups learned the ungrammaticality of both the *ni* direct and the *ni* indirect passive sentences without θ-role suppression as they became more proficient in TL (target language) and furthermore that the highly advanced group successfully approximated the NS control group.

Second, with regard to the two ungrammatical sentence types of the *ni yotte* passive, examples of both types are given in (53) below, i.e., (53a) in which θ-role suppression took place but case absorption did not, and (53b) where θ-role suppression

did not occur, but case absorption did (the English gloss indicates their intended meaning):

(53) (= (34))	a.	*biitoruzu-ni yotte the Beatles-by	utukusii uta-o beautiful songs-ACC	takusan a lot	tukur-are-ta make-Pass-Pst
	b.	*utukusii uta-wa -TOP	biitoruzu-ga -NOM	takusan	tukur-are-ta

'many beautiful songs were made by the Beatles'

Table 13 displays the statistical data on all groups' judgments of these ungrammatical sentences[11]. It appears that if Groups 3 and 4 are considered together, group grammatical judgment scores and proficiency levels, i.e., Groups 1, 2, and 3/4, are inversely related. Note also that there is a considerable judgment difference between the sentences without θ-role suppression and those without case absorption for Group 1 and, to a slightly lesser extent, for Group 2.

Table 13: The *ni yotte* passive without θ-role suppression or case absorption

Sentence Types	*Groups*	*Mean*	*SD*	*N*
*+ θ-role - Case[a]	1	-1.34	.95	31
	2	-.56	1.42	25
	3	.24	1.53	36
	4	.50	1.09	20
*- θ-role + Case[b]	1	-1.90	.33	31
	2	-.96	1.14	25
	3	.17	1.52	36
	4	.20	.95	20

a., b. The test sentences for the ungrammatical *ni yotte* passive include #48 and #51 (without case absorption) as well as #49 and #52 (without θ-role suppression).

A Repeated-Measures ANOVA for all groups was performed on both types of sentences. The results indicated that there were significant main effects both in sentence-types ($F(1, 108) = 5.506, p = .021$), and in groups ($F(3, 108) = 26.721, p < .0005$). There was no interaction effect between sentence types and groups ($F(3, 108) = .662, p = .577$). The Tukey HSD results showed the following: 1) Group 1 was significantly different from all learners' groups; 2) Group 2 was different from Groups 3 and 4; and 3) Groups 3 and 4 were indistinguishable from each other. Thus, Group 2 failed to approximate in judgment to the NS control group, although it still rated better than Groups 3 and 4.

Next, Repeated-Measures ANOVA results for each group showed that there was a significant sentence-type main effect for Group 1 ($F(1, 30) = 10.634, p = .003$); however, no effect was found for all learners' groups ($F(1, 24) = 2.286, p = .144$ for Group 2; ($F(1, 35) = .048, p = .828$ for Group 3; and ($F(1, 19) = .932, p = .347$ for Group 4). These findings all suggest that Group 2 indiscriminately judged both types of sentences as ungrammatical whereas Groups 3 and 4 did not rate either of them as ungrammatical; on the other hand, Group 1 subjects judged the sentences without θ-role suppression significantly lower (thus as more ungrammatical) than those without case absorption.

In sum, in contrast to Groups 3 and 4's failure, Group 2 subjects squarely rejected both types of ungrammatical sentences of the *ni yotte* passive although they failed to approximate Group 1. The learners' groups rated them indiscriminately while Group 1 judged the sentences without θ-role suppression worse than those without case absorption.

Third, with respect to the two ungrammatical sentence types of the *ni* indirect passive, examples of both types are repeated in (54) below, viz., (54a), unpassivized in its

embedded clause and (54b), passivized (the English gloss below shows their intended meaning):

(54) (= (34))	a.	*John-wa -TOP	kodomo-ga child-NOM	kuruma no mado-o car window-ACC	war-are-ta break-Pass-Pst
	b.	*John-wa -TOP	kuruma no mado-ga car window-NOM	kodomo-ni child-by	war-are-ta

'John was affected by a child breaking the car window'

Table 14 presents the statistical data on all groups' judgments of these ungrammatical sentences[12]. There is a marked difference in judgment between these two types of sentences for Groups 2 and 3. The unpassivized sentences were rejected clearly as ungrammatical while the passivized ones were not. Note also that Group 1 did not make such a differential judgment and rated both of them as squarely ungrammatical.

Table 14: The *ni* indirect passive unpassivized and passivized

Sentence Types	*Groups*	*Mean*	*SD*	*N*
*Unpassivized[a]	1	-1.92	.37	31
	2	-1.60	.68	25
	3	-.64	1.31	36
	4	.05	1.19	20
*Passivized[b]	1	-1.69	.68	31
	2	4.29×10^{-17}	1.55	25
	3	2.90×10^{-17}	1.44	36
	4	.25	.99	20

a., b. The test sentences for the *ni* indirect passive include #58 and #61 (for unpassivized) and #59 and #62 (for passivized).

A Repeated-Measures ANOVA for all groups was performed on both types of sentences. The results showed that there was a significant interaction effect between sentence types and groups ($F(3, 108) = 26.721, p < .0005$). Thus, for the purpose of

exploring the nature of this interaction, to begin with, a Repeated-Measures ANOVA on these ungrammatical sentence types was run for each group. It was found that there was no significant sentence-type main effect for Groups 1 and 4 ($F(1, 30) = 2.506, p = .124$ for Group 1; and $F(1, 19) = .655, p = .428$ for Group 4), suggesting that both groups did not judge the two types of sentences differently. On the other hand, significant sentence-type main effects were found for Groups 2 and 3 ($F(1, 24) = 23.814, p < .0005$ for Group 2; and $F(1, 35) = 4.188, p = .048$ for Group 3), indicating that both groups judged them significantly differently from each other. Thus, the unpassivized and passivized sentences were judged differently by Groups 2 and 3, but not by Groups 1 and 4.

Next, Oneway ANOVAs for both ungrammatical sentence types on all four groups were conducted to examine how closely learners' groups approximated the NS control group. There was a significant difference between groups in judging the unpassivized sentences ($F(3, 108) = 21.515, p < .0005$). The Tukey HSD results showed that Group 2 was not significantly different from Group 1, but that Groups 3 and 4 were significantly different from Group 1. A significant difference was also found between groups in judging the passivized sentences ($F(3, 108) = 15.503, p < .0005$). The Tukey HSD results indicated that all learners' groups were significantly different from Group 1 and that learners' groups were not different from one another. Thus, Group 2 subjects approximated Group 1 only in judging the unpassivized sentences, but they failed to do so for the passivized ones. Groups 3 and 4 judged both unpassivized and passivised ungrammatical sentences differently from Group 1.

In all, the unpassivized sentences were judged clearly as ungrammatical by Group 2 subjects, approximating Group 1; on the other hand, the passivized ones were not

rejected as ungrammatical. Group 3 subjects rated the unpassivized sentences as ungrammatical to a lesser extent than Groups 1 and 2, whereas they failed to do so for the passivized ones. Group 4 subjects did not reject either types of sentences as ungrammatical.

On the whole, when the subjects' judgments of ungrammatical sentences were examined in light of the improper syntactic operations responsible for their ungrammaticality, the following three results were obtained: 1) the lack of θ-role suppression served as a progressively clearer indication of ungrammaticality for the *ni* direct and the *ni* indirect passives as learner subjects became more proficient in the TL; 2) in judging the two types of ungrammatical sentences of the *ni yotte* passive, only the highly advanced group subjects rated them as ungrammatical. However, they did so with no differentiation between them unlike the NS group who judged the one without θ-role suppression worse than the other without case absorption; 3) in rating the unpassivized and passivized ungrammatical sentences of the *ni* indirect passive, the former were judged as squarely ungrammatical by the highly advanced group (approximating the NS group) and, to a lesser extent, by the low advanced group, whereas the latter sentences were not rejected as ungrammatical by any NNS group.

4.3.1.4. Summary of judgments of three syntactic types of passives

A summary of the analyses of the subjects' judgments of three syntactic types of passives follows. First, of all three types of grammatical sentences, the *ni* direct passive was judged highest and the other two types of passives, *ni yotte* and *ni* indirect passives, were rated indistinguishably by the highly advanced and the low advanced groups.

Moreover, the highly advanced and the low advanced groups approximated the NS control group in rating the *ni* direct passive. In contrast, only the highly advanced group approximated the NS group in rating the *ni yotte* passive while no NNS group did so in assessing the *ni* indirect passive.

Second, in comparison of ungrammatical sentences to grammatical ones, 1) the ungrammatical sentences of the *ni* direct passive (where θ-role suppression did not take place) were judged significantly differently from the grammatical ones by the highly advanced and the low advanced groups; 2) two types of ungrammatical sentences of the *ni yotte* passive (where either θ-role suppression or accusative case absorption did not occur) were only differentiated from the grammatical ones by the highly advanced group; 3) one type of ungrammatical sentences of the *ni* indirect passive (the unpassivized version) was discriminated from the grammatical ones by the highly advanced and the low advanced groups whereas the other type (the passivized version) was not distinguished in grammaticality from the grammatical ones by any learners' group.

Third, in the analysis of the ungrammatical sentences in terms of improper syntactic operations, 1) the ungrammatical sentences in which θ-role suppression did not take place were judged as ungrammatical both in the *ni* direct and the *ni* indirect passives all the more clearly as the subjects' proficiency levels increased; 2) only the highly advanced group rejected two ungrammatical types of the *ni yotte* passive: one where θ-role suppression did not take place and the other in which accusative case absorption did not occur; 3) the unpassivized sentences of the *ni* indirect passive were correctly rejected by the highly advanced group and, to a lesser extent, by the low advanced group as well,

while the passivized counterparts were not rejected by any NNSs' group. In all analyses above, the intermediate group did not give any differential judgments.

4.3.2. Judgments of semantic properties of passives

In the following we attempt to investigate NNS subjects' knowledge of semantic properties of Japanese passives by examining 1) their grammaticality judgments of the three types of passives for an adversative reading, viz., the *ni yotte*, the *ni* direct, and the *ni* indirect passives; 2) those of adversative versus non-adversative readings of the *ni* direct and the *ni* indirect passives; and 3) those of *ni* passive versus *ni yotte* passive contrasts effected in various conditions.

4.3.2.1. Judgments of three types of passives for an adversative reading

As an initial investigation of NNS subjects' knowledge of semantic properties of Japanese passives, we obtain an overview of their judgment patterns of the three types of passives in semantic terms just as we did for the syntactic investigation. Namely, we examine how the NNS groups judged each type of passive with respect to the other two as well as how closely they approximated the NS control group in rating them. In doing so, their judgments of the three types of passives (i.e., the *ni yotte*, the *ni* direct, and the *ni* indirect passives) for an adversative reading are investigated since this semantic property is the only type which manifests its semantic effect across all these passives. For expository purposes, an example sentence of each passive type is provided in (55) below. Due to its non-θ-subject status, the *ni yotte* passive (55a) is incompatible with an adversative reading (which expresses a situation unfavorable for its passive subject) and

thus is ungrammatical, whereas the *ni* passives, both direct and indirect ((55b) and (55c) respectively), are compatible with an adversative reading owing to their 'affectee' θ-subject status:

(55)

a. (= (43d))

*Jane-ga	mukasi no kare-ni yotte	ni-zikan mo	mat-arete	komat-ta
-NOM	ex-boyfriend-by	as many as 2 hours	wait-Pass	annoy-Pst

b. (= (43c))

Jane-ga	mukasi no kare-ni	ni-zikan mo	mat-arete	komat-ta
	-by			

'Jane was annoyed by being adversely affected by having been waited for by her ex-boyfriend for as many as two hours'

. c. (= (37))

John-ga	warui toki-ni	tomodati-ni	ko-rare-ta
-NOM	at an inconvenient time	friend-by	come-Pass-Pst

'John was adversely affected by his friend visiting him at an inconvenient time'

Table 15 provides the statistical data on all groups' judgments of these three types of grammatical or ungrammatical sentences.[13] In Figure 6 numbers 1, 2, and 3 on the x-axis indicate the judgments of passives in the order given above for the example sentences. (The asterisk attached to the passive type both in the table and the figure indicates its predicted ungrammaticality status.) As displayed in Figure 6, Groups 1 and 2 seem to have made differential judgments between the *ni yotte* passive and the *ni* passives: Group 1 appears to have made a clearer differentiation between the *ni yotte* passive and the *ni* direct passive than Group 2, while both groups gave almost identical judgments to the *ni* indirect passive. On the other hand, Group 3 seems to have judged the *ni* direct passive differently from both the *ni yotte* and the *ni* indirect passives. Finally, Group 4 appears not to have made any differential judgments between any two of the three types of passives.

Table 15: Three types of passives for an adversative reading

Sentence Types	*Groups*	*Mean*	*SD*	*N*
**ni yotte* passive[a]	1	-.42	1.36	31
	2	.24	1.67	25
	3	.67	1.62	36
	4	.65	1.42	20
ni direct passive[b]	1	1.84	.58	31
	2	1.52	1.08	25
	3	1.39	1.05	36
	4	.65	1.42	20
ni indirect passive[c]	1	1.3629	.6796	31
	2	1.4000	.6250	25
	3	.1597	1.1880	36
	4	.4125	.9293	20

a., b., c. The test sentences include #26 for the *ni yotte* passive; #25 for the *ni* direct passive; and for the *ni* indirect passive #13 and #16 with intransitive verbs as well as #19 and #22 with transitive verbs.

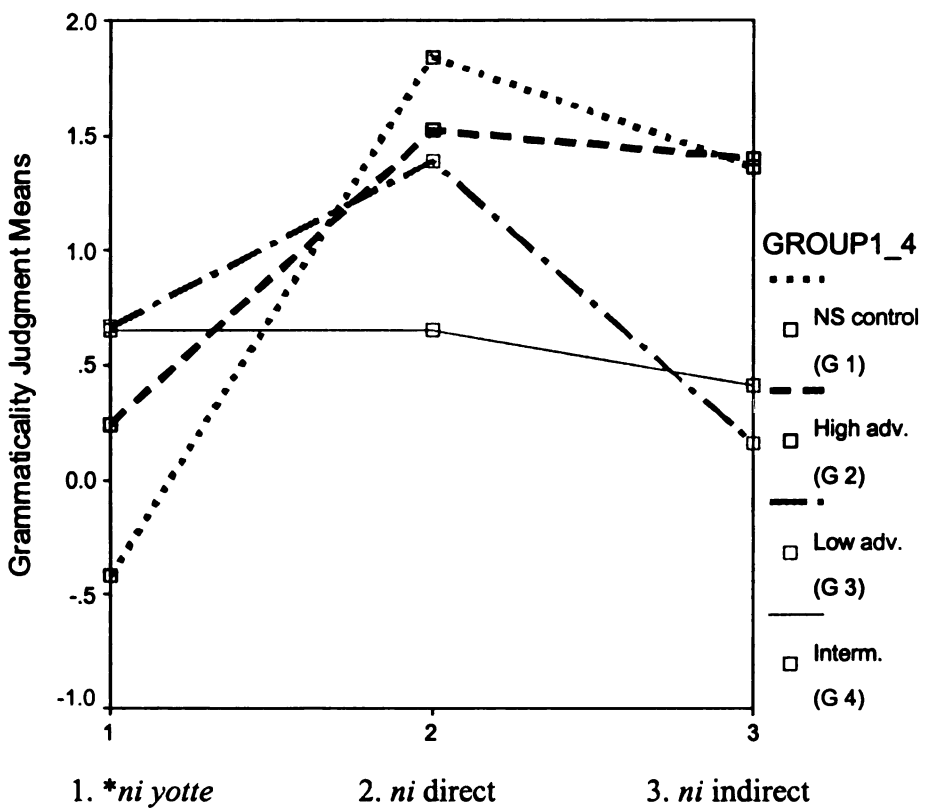


Figure 6: Three types of passives for an adversative reading

A Repeated-Measures ANOVA for all groups was performed on the three types of passives. A significant main effect was found in passive-types ($F(2, 216) = 21.362, p < .0005$), but there was a significant interaction effect between passive-types and groups ($F(6, 216) = 7.988, p < .0005$). Thus a Repeated-Measures ANOVA on the three types of passives was run for each group. The results for Group 1 showed that there was a passive-type main effect ($F(2, 60) = 49.011, p < .0005$). Tests of within-subjects contrasts showed that each of the three passives was judged differently from one another. Namely, the *ni yotte* passive was rated significantly lower than both types of *ni* passives, but there was a significant judgment difference between *ni* direct and *ni* indirect passives. The ANOVA results for Group 2 indicated that there was a passive-type main effect ($F(2, 48) = 8.982, p < .0005$). Tests of within-subjects contrasts indicated that the *ni yotte* passive was judged significantly lower than both types of *ni* passives whereas there was no significant difference in judgment between *ni* direct and *ni* indirect passives. Next, the results for Group 3 showed that there was a passive-type main effect ($F(2, 70) = 7.953, p = .001$). Tests of within-subjects contrasts demonstrated that the *ni* direct passive was rated significantly higher than both *ni yotte* and *ni* indirect passives, but that there was no significant judgment difference between *ni yotte* and *ni* indirect passives. Finally, Group 4 ANOVA results showed that no significant main effect was found for the three types of passives ($F(2, 38) = .222, p = .802$), suggesting that Group 4 subjects did not judge any one type of passive higher than the other two.

In all, the *ni* direct passive was judged indiscriminately from the *ni* indirect passive by Group 2. On the other hand, the *ni* direct passive was rated differently from both *ni yotte* and *ni* indirect passives by Group 3; furthermore, the *ni yotte* passive was

judged differently from the *ni* indirect passive by Group 2, but similarly by Group 3. (Group 2's judgments of this property of the *ni yotte* passive are examined more closely in a later analysis.) Group 4 did not make any differential judgments of the three types of passives.

Second, a Oneway ANOVA for each passive type was conducted on all four subject groups to explore how closely the learners' groups (viz. Groups 2, 3, and 4) approximated the NS control group (Group 1) in judgments. There was a significant difference between groups in judging the *ni yotte* passive ($F(3, 108) = 3.321, p = .023$). The Tukey HSD results showed that Groups 2 and 4 were not significantly different from Group 1, but that Group 3 was significantly different from Group 1. Considering the ungrammaticality status of the *ni yotte* passive and Group 4's scant knowledge (evidenced thus far) of Japanese passives, Group 4's approximation to Group 1 seems accidental in that the former group rated it low due to the absence of relevant knowledge, whereas the latter group rated it negatively owing to the presence of such knowledge. A significant difference was also found between groups in judging the *ni* direct passive ($F(3, 108) = 5.474, p = .002$). The Tukey HSD results indicated that Groups 2 and 3 were not significantly different from Group 1 whereas Group 4 judged significantly differently from Group 1. Finally, there was a significant difference between groups in judging the *ni* indirect passive ($F(3, 108) = 14.783, p < .0005$). The Tukey HSD results showed that Group 2 was not different from Group 1, but Groups 3 and 4 were significantly different from Group 1 in judging this type of passive.

Overall, the *ni* direct passive was judged by Groups 2 and 3 without significant difference from Group 1, but only Group 2 rated the *ni yotte* passive as well as the *ni* indirect passive similarly to Group 1.

In sum, in examining how learners' groups judged each type of passive with respect to the other two, the following three results were obtained: 1) the highly advanced group judged the two types of *ni* passives, i.e., direct and indirect, without significant difference while this group rated the *ni yotte* passive significantly lower than both types of *ni* passives; 2) the low advanced group judged the *ni* direct passive significantly higher than *ni yotte* and *ni* indirect passives, whereas this group rated the latter two types of passives indiscriminately; 3) the intermediate group did not judge any one type of passive higher than the other two. Next, the following two results were found by investigating whether learner groups' judgments of each type of passive approximated those of the NS group: 1) in judging the *ni* direct passive the highly advanced and the low advanced groups approximated the NS group; 2) in rating *ni yotte* and *ni* indirect passives only the highly advanced group did so.

Therefore, on the whole, the highly advanced group seems to have demonstrated judgment patterns indistinguishable from the NS control group in rating the three types of passives for an adversative reading, whereas the low advanced group showed good knowledge of only the *ni* direct passive, and the intermediate group failed to demonstrate any evidence of knowledge. (See the subsequent analyses for closer examinations of learner groups' judgments of adversative readings for the three types of passives.)

4.3.2.2. Judgments of adversative versus non-adversative readings

The *ni* indirect passive predominantly carries an adversative reading whereas the *ni* direct passive does also, but to a lesser extent. Thus, the *ni* indirect and the *ni* direct passives are both compatible with a context denoting an unfavorable situation for their passive subject, and not in harmony with a context denoting a favorable one. We examine subjects' judgments of the *ni* indirect and the *ni* direct passives with an adversative reading vis-à-vis those of a non-adversative reading to find out if judgments of them reflected the above noted context-compatibility contrast. We look first into whether or not they made differential judgments between adversative and non-adversative readings within each type of passive; second, we compare their judgments of adversative readings across the types. We look at three types: i.e., the *ni* indirect passive with intransitive verbs, the *ni* indirect passive with transitive verbs, and the *ni* direct passive.

4.3.2.2.1. An adversative versus non-adversative reading distinction within each type of passive

First, we examine subjects' differential judgments of the *ni* indirect passive with intransitive verbs in both unfavorable and favorable contexts for its passive subject. Example sentences of each type are provided in (56) below, i.e., (56a) with an unfavorable context (thus grammatical), and (56b) with a favorable context (thus ungrammatical):

(56) a. John-ga warui toki-ni tomodati-ni ko-rare-ta
(= (37)) -NOM at an inconvenient time friend-by come-Pass-Pst
'John was adversely affected by his friend visiting him at an inconvenient time'

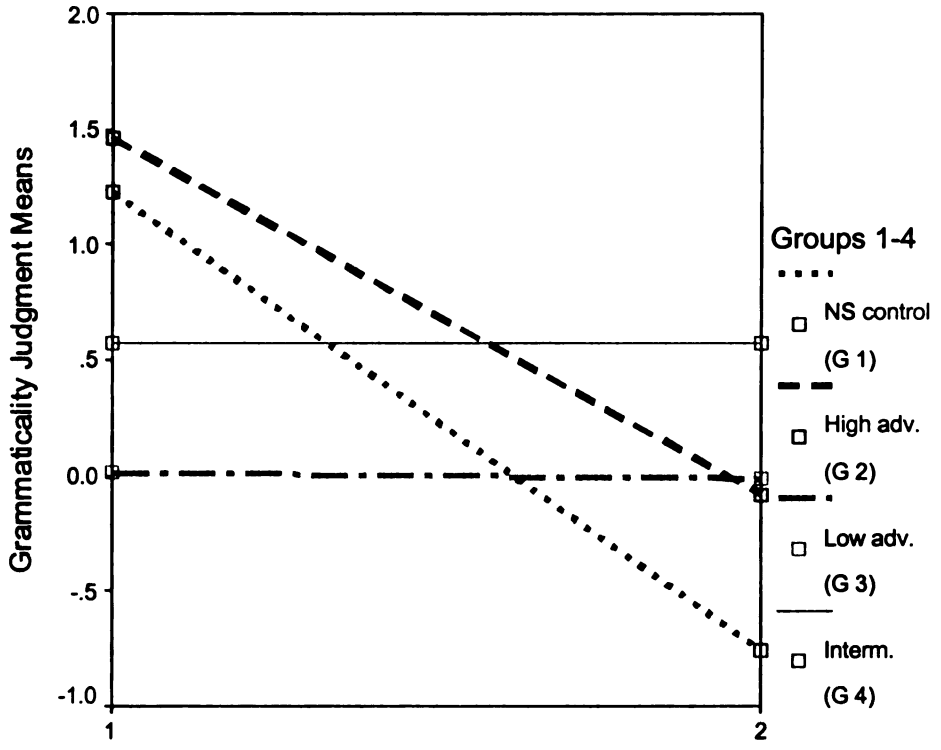
b. *John-ga ii toki-ni tomodati-ni ko-rare-ta
at a convenient time
'*John was adversely affected by his friend visiting him at a convenient time'
(Kuroda 1979, p. 314 & p. 317)

Table 16 provides the statistical data on all groups' judgments of these grammatical and ungrammatical sentences. In Figure 7 numbers 1 and 2 on the x-axis indicate the judgments of respective readings. As shown in Figure 7, Groups 1 and 2 seem to have made a distinction in judgment between adversative and non-adversative readings while Groups 3 and 4 did not.

Table 16: The *ni* indirect passive with intransitive verbs with adversative and non-adversative readings

Sentence Types	*Groups*	*Mean*	*SD*	*N*
intransitive	1	1.23	.84	31
indirect with	2	1.46	.85	25
adversative	3	.0139	1.37	36
reading[a]	4	.58	1.38	20
*intransitive	1	-.758	1.032	31
indirect with	2	-.0800	1.087	25
non-adversative	3	-.01389	1.296	36
reading[b]	4	.575	.977	20

a., b. The test sentences include #13 and #16 with adversative reading; and #15 and #18 with non-adversative reading.



1. *ni* indirect with adversity 2. **ni* indirect without adversity

Figure 7: The *ni* indirect passive with intr. verbs with +/- adversative readings

A Repeated-Measures ANOVA for all groups was run on the passive types. The results showed that there was a significant interaction effect between passive types and groups ($F(3, 108) = 15.569, p < .0005$). Thus a Repeated-Measures ANOVA was performed for each group. The results for Groups 1 and 2 indicated that there was a significant passive-type main effect ($F(1, 30) = 105.355, p < .0005$ for Group 1; $F(1, 24) = 27.125, p < .0005$ for Group 2), suggesting that both groups judged the *ni* indirect passive with an adversative reading differently from those with a non-adversative reading. On the other hand, Groups 3 and 4 ANOVA results showed no significant judgment differences ($F(1, 35) = .013, p = .910$ for Group 3; $F(1, 19) < .0005, p = 1.000$

for Group 4), suggesting that these groups made no differentiation in rating them irrespective of their readings.

Next, we look at the judgments of the *ni* indirect passive sentences with transitive verbs in both unfavorable and favorable contexts for the passive subject. Example sentences of each type are given in (57) below, i.e., (57a) with an unfavorable context (thus grammatical), and (57b) with a favorable context (thus ungrammatical):

(57)

a. warui koto ni, Bill-wa Jane-ni girlfriend kara no tegami-o yom-are-ta
unfortunately -TOP -by letter from his girlfriend-ACC read-Pass-Pst
'unfortunately, Bill was adversely affected by Jane reading a letter from his girlfriend'

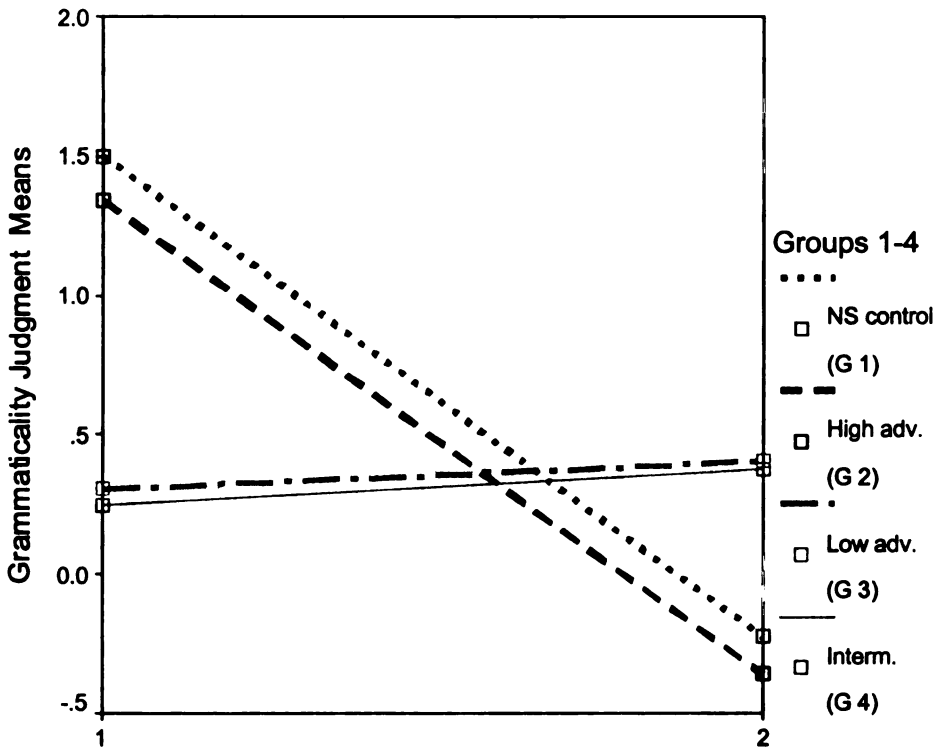
b. *saiwaina koto ni, Bill-wa Jane-ni girlfriend kara no tegami-o yom-are-ta
fortunately
'*fortunately, Bill was adversely affected by Jane reading a letter from his girlfriend'

Table 17 presents the statistical data on all groups' judgments of these grammatical and ungrammatical sentences. In Figure 8 numbers 1 and 2 on the x-axis represent the judgments of respective readings. Figure 8 indicates that the subjects' judgment patterns in the *ni* indirect passive with transitive verbs replicated those found for the *ni* indirect passive with intransitive verbs. That is, it appears that Groups 1 and 2 made differential judgments between adversative and non-adversative readings whereas Groups 3 and 4 did not.

Table 17: The *ni* indirect passive with transitive verbs with adversative and non-adversative readings

Sentence Types	*Groups*	*Mean*	*SD*	*N*
transitive	1	1.50	.79	31
indirect with	2	1.34	.73	25
adversative	3	.31	1.56	36
reading[a]	4	.25	1.28	20
*transitive	1	-.23	1.25	31
indirect with	2	-.36	1.30	25
non-adversative	3	.40	1.34	36
reading[b]	4	.38	1.20	20

a., b. The test sentences include #19 and #22 with adversative reading; and #21 and #24 for non-adversative reading.



1. indirect with adversity 2. *indirect without adversity

Figure 8: The *ni* indirect passive with tr. verbs with +/- adversative readings

A Repeated-Measures ANOVA for all groups was run on the passive types. The results showed that there was a significant interaction effect between passive types and

groups ($F(3, 108) = 12.754, p < .0005$). Thus a Repeated-Measures ANOVA was performed for each group. The results for Groups 1 and 2 indicated that there were significant passive-type main effects ($F(1, 30) = 36.011, p < .0005$ for Group 1; $F(1, 24) = 28.195, p < .0005$ for Group 2), indicating that both groups judged the *ni* indirect passive with transitive verbs differently depending on adversative and non-adversative readings. Likewise, Groups 3 and 4 ANOVA results showed no significant judgment differences ($F(1, 35) = .140, p = .710$ for Group 3; $F(1, 19) = .152, p = .701$ for Group 4), suggesting that these groups made no distinction in rating them regardless of their readings.

Finally, we examine the *ni* direct passive sentences in both unfavorable and favorable contexts for the passive subject. Example sentences of each type are repeated in (58) below, viz., (58a) with an unfavorable context (thus grammatical), and (58b) with a favorable context (thus ungrammatical):

(58) (= (38))

a.	Jane-ga	mukasi no kare-ni	ni-zikan mo	mat-arete	komat-ta
	-NOM	ex-boyfriend-by	as many as 2 hours	wait-Pass	annoy-Pst

'Jane was annoyed by being adversely affected by having been waited for by her ex-boyfriend for as many as two hours'

b.	*Jane-ga	mukasi no kare-ni	ni-zikan mo	mat-arete	uresikat-ta
					happy-Pst

'*Jane was happy by being adversely affected by having been waited for by her ex-boyfriend for as many as two hours'

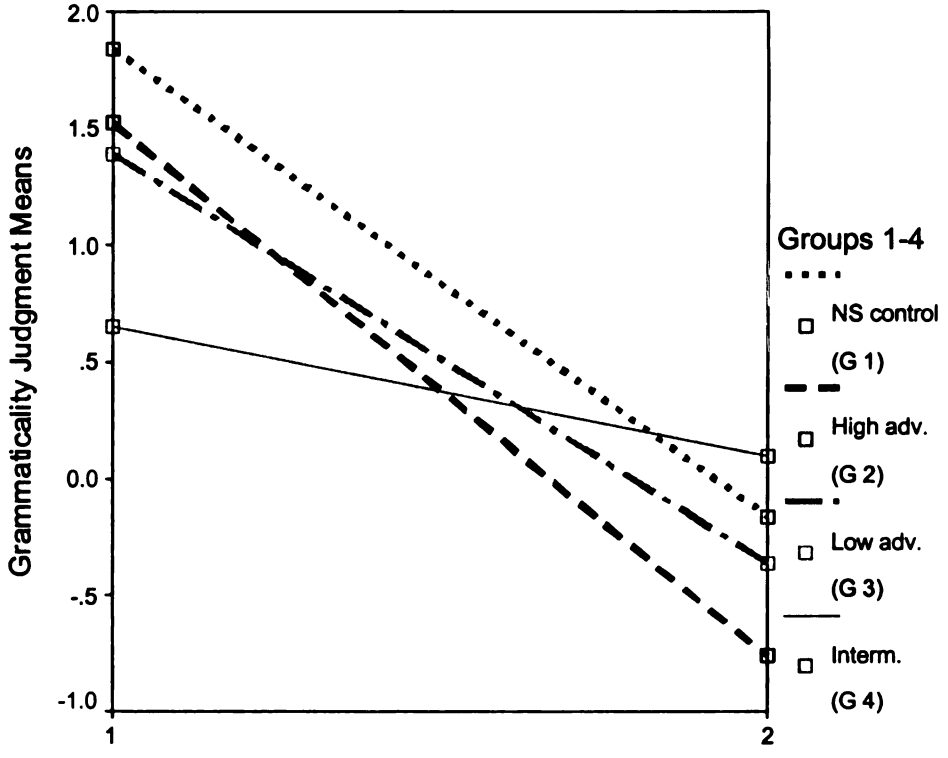
Table 18 presents the statistical data on all groups' judgments of these grammatical and ungrammatical sentences. In Figure 9 numbers 1 and 2 on the x-axis signify the judgments of respective readings. Figure 9 indicates that groups' patterns in judgment of the *ni* direct passive were different from those of the *ni* indirect passive. It

seems that Group 3 as well as Groups 1 and 2 made distinctions in judging the *ni* direct passive between adversative and non-adversative readings whereas Group 4 did not.

Table 18: The *ni* direct passive with adversative and non-adversative readings

Sentence Types	*Groups*	*Mean*	*SD*	*N*
direct with adversative reading[a]	1	1.84	.58	31
	2	1.52	1.08	25
	3	1.39	1.05	36
	4	.65	1.42	20
*direct with non-adversative reading[b]	1	-.16	1.68	31
	2	-.76	1.51	25
	3	-.36	1.57	36
	4	.10	1.33	20

a., b. The test sentences include #25 with an adversative reading and #27 with a non-adversative reading.



1. direct with adversity 2. *direct without adversity

Figure 9: The *ni* direct passive with +/- adversative readings

A Repeated-Measures ANOVA for all groups was run on the passive types. The results showed that there was a significant interaction effect between passive types and groups ($F(3, 108) = 3.507, p = .018$). Thus a Repeated-Measures ANOVA was performed for each group. The results for Groups 1, 2, and 3 showed that there was a significant passive-type main effect ($F(1, 30) = 48.947, p < .0005$ for Group 1; $F(1, 24) = 37.561, p < .0005$ for Group 2; $F(1, 35) = 24.617, p < .0005$ for Group 3), indicating that these three groups made differential judgments of the *ni* direct passive between adversative and non-adversative readings. However, Group 4 ANOVA results showed no significant judgment difference ($F(1, 19) = 1.620, p = .218$), suggesting that Group 4 made no distinction in rating the *ni* direct passive irrespective of their readings.

In summary, as for the *ni* indirect passive both with intransitive and transitive verbs, the highly advanced group judged differently between adversative and non-adversative readings whereas the other two groups failed to distinguish between them. For the *ni* direct passive, the highly advanced and the low advanced groups made distinctions in judgment according to whether they carried adversative or non-adversative readings, but the intermediate group did not.

4.3.2.2.2. Judgments of adversative readings across the *ni* passives

Second, we compare subjects' judgments of the following three types of *ni* passives with adversative readings, i.e., the *ni* indirect passive with intransitive and transitive verbs, and the *ni* direct passive, in order to determine if any particular type of passive was judged higher than the others. For the sake of exposition, example sentences of each type are provided in (59) below in the order given above:

(59)

a. (= (37a))

John-ga warui toki-ni tomodati-ni ko-rare-ta
-NOM at an inconvenient time friend-by come-Pass-Pst
'John was adversely affected by his friend visiting him at an inconvenient time'

b. (= (56a))

warui koto ni, Bill-wa Jane-ni girlfriend kara no tegami-o yom-are-ta
unfortunately -TOP -by letter from his girlfriend-ACC read-Pass-Pst
'unfortunately, Bill was adversely affected by Jane reading a letter from his girlfriend'

c. (= (38))

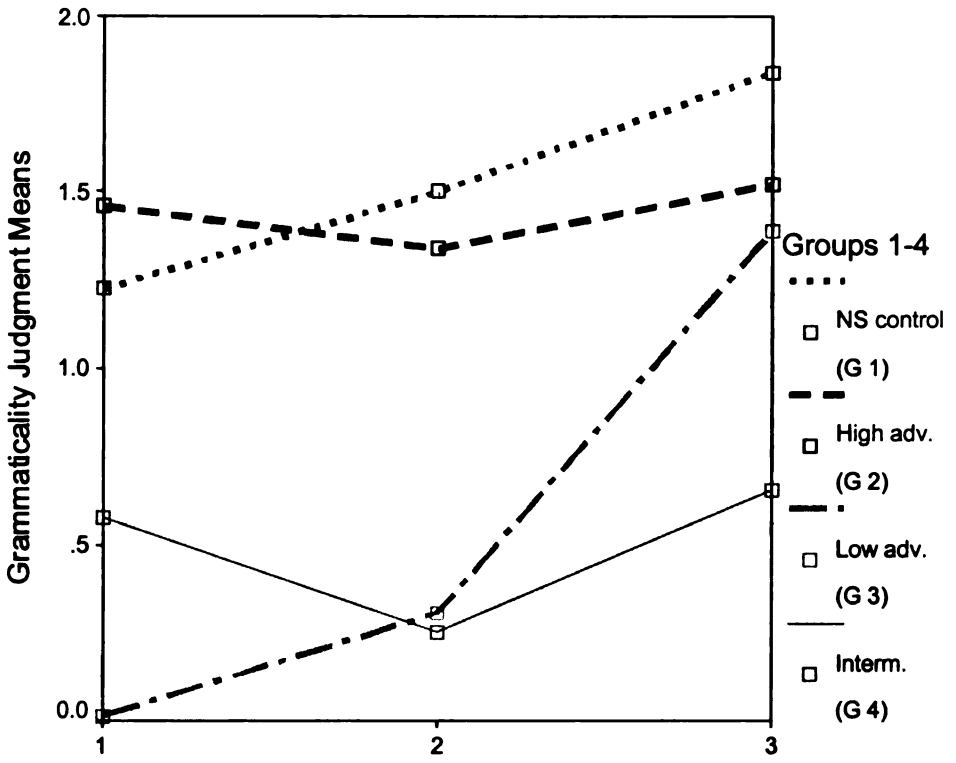
Jane-ga mukasi no kare-ni ni-zikan mo mat-arete komat-ta
-NOM ex-boyfriend-by as many as 2 hours wait-Pass annoy-Pst
'Jane was annoyed by being adversely affected by having been waited for by her ex-boyfriend for as many as two hours'

Table 19 provides the statistical data on all groups' judgments of these three types of passive sentences. In Figure 10 numbers 1, 2, and 3 on the x-axis represent the judgments of the respective passive above. As illustrated in Figure 10, Groups 1 and 2 appear to have judged these passives without much difference from each other (with the exception of Group 1's slightly larger judgment difference between the *ni* indirect passive with intransitive verbs and the *ni* direct passive). On the other hand, Group 3 seems to have rated the *ni* direct passive much higher than either type of the *ni* indirect passive. Group 4 appears to have judged all three types of passives indiscriminatingly.

Table 19: The *ni* indirect passive with intransitive plus transitive verbs and the *ni* direct passive with adversative readings

Sentence Types	*Groups*	*Mean*	*SD*	*N*
ni indirect passive w/ intr. verbs[a]	1	1.23	.84	31
	2	1.46	.85	25
	3	.0139	1.37	36
	4	.58	1.38	20
ni indirect passive w/ tr. verbs[b]	1	1.50	.79	31
	2	1.34	.73	25
	3	.31	1.56	36
	4	.25	1.28	20
ni direct passive[c]	1	1.84	.58	31
	2	1.52	1.08	25
	3	1.39	1.05	36
	4	.65	1.42	20

a., b., c. The test sentences include #13 and #16 for the *ni* indirect passive with intransitive verbs; and #19 and #22 for the *ni* indirect passive with transitive verbs; and #25 for the *ni* direct passive.



1. indirect w/ intr. 2. indirect w/ tr. 3. direct

Figure 10: The *ni* indirect passive with intr./tr. verbs and *ni* direct passive with adversative readings

A Repeated-Measures ANOVA for all groups was run on these passive types. The results showed that there was a significant interaction effect between passive types and groups ($F(6, 216) = 2.624, p = .018$). Thus a Repeated-Measures ANOVA was performed for each group. The results for Group 1 indicated that there was a significant passive-type main effect ($F(2, 60) = 5.481, p = .007$). Tests of within-subjects contrasts showed 1) that there was no significant difference in judging the *ni* indirect passive with intransitive and transitive verbs; and 2) that the *ni* direct passive was not rated differently from the *ni* indirect passive with transitive verbs, but was rated higher than the *ni* indirect passive with intransitive verbs.[14] These findings suggest that when sentences carried an adversative reading, Group 1 judged the *ni* indirect passive with intransitive and

transitive verbs as well as the *ni* direct passive similarly (except for the judgment difference between the *ni* indirect passive with intransitive verbs and the *ni* direct passive). The ANOVA results for Group 2 showed that there was no significant passive-type main effect ($F(2, 48) = .319, p = .728$), suggesting that Group 2 subjects judged these three types of passives not differently. Note that in examining their ratings of three syntactic types of passives (i.e., the *ni yotte*, the *ni* direct, and the *ni* indirect passives), it was found that the *ni* indirect passive was judged lower than the *ni* direct passive. Thus, it appears that a pronounced adversative reading in the *ni* indirect passive sentences contributed to promoting Group 2 judgments of them.[15]

The ANOVA results for Group 3 showed that there was a significant passive-type main effect ($F(2, 70) = 11.448, p < .0005$). Tests of within-subjects contrasts indicated that the *ni* direct passive was judged significantly higher than both types of the *ni* indirect passive, but that there was no significant difference in rating between the two types of the *ni* indirect passive, suggesting that Group 3 subjects judged the *ni* direct passive higher than the *ni* indirect passive. Note that this replicates the Group 3 judgment pattern found for the analysis of three syntactic types of passives. Therefore, it seems that unlike Group 2, a pronounced adversative reading in the *ni* indirect passive sentences did not promote Group 3 judgments of them. Finally, no significant passive-type main effect was found in Group 4 judgments of them ($F(2, 38) = .426, p = .656$), showing that Group 4 subjects rated these types of passives indiscriminately.

In all, the highly advanced group rated the *ni* indirect passive with intransitive and transitive verbs as well as the *ni* direct passive all carrying adversative readings with no judgment differences from each other. The low advanced group judged the *ni* direct

passive higher than the *ni* indirect passive while the intermediate group did not judge them differently.

4.3.2.2.3. Summary of judgments of passives for adversative and non-adversative readings

In sum, the highly advanced group demonstrated judgment patterns closely conforming to those of the NS control group in rating the three types of passives (the *ni yotte*, the *ni* direct, and the *ni* indirect passives) for an adversative reading while the low advanced group did so only in judging the *ni* direct passive. The intermediate group did not show any knowledge of them. (Their judgments of the *ni yotte* passive with an adversative reading are examined in greater detail in subsequent analyses.)

Next, the highly advanced group made differential judgments between adversative and non-adversative readings in all three types of passives: i.e., the *ni* indirect passive with intransitive as well as transitive verbs, and the *ni* direct passive. Furthermore, this group rated both types of the *ni* indirect passive with an adversative reading as high as its *ni* direct counterpart, suggesting that a pronounced adversative reading in *ni* indirect passive sentences promoted their judgments of them. On the other hand, the low advanced group made a differential judgment between adversative and non-adversative readings only in the *ni* direct passive. A pronounced adversative reading in the *ni* indirect passive did not improve this group's judgments. The intermediate group did not evince evidence of their knowledge of an adversative reading of the three types.

4.3.2.3. Judgments of *ni* passive versus *ni yotte* passive contrasts

This section presents the analyses of the NNS subjects' judgments of *ni* versus *ni yotte* passive contrasts effected in the following areas: 1) a perfective versus non-perfective reading; 2) an adversative reading; 3) verb-induced viewpoint differences. We examine each area in the order given above.

4.3.2.3.1. Judgments of perfective versus non-perfective readings

Due to its θ-subject status, the *ni* direct passive with an inanimate subject allows a perfective reading, but not a non-perfective one, while owing to its non-θ-subject status, the *ni yotte* passive does not impose such restriction on possible readings. We investigate if the NNS subjects made differential judgments of the *ni* direct and the *ni yotte* passives depending on whether they carried perfective or non-perfective readings. Specifically, we first look at their judgments of the *ni* direct and the *ni yotte* passives with the *ta*-marked perfective and past readings and second, examine those with the *iru*-marked perfective and progressive readings to find out if their judgments reflected the perfective versus non-perfective reading distinction when it was effected.

4.3.2.3.1.1. Judgments of *ta*-marked perfective versus past readings

We first examine if the subjects observed the perfective versus non-perfective contrast in judgment of *ta*-marked *ni* direct and *ni yotte* passives as effected. Recall that according to Kuroda (1979) the *ni* direct passive with a past reading is ungrammatical while the others are grammatical. Example sentences of each type of passive are given in (60) below, namely, (60a) for the *ni* direct passive with a past reading, (60b) for the *ni*

direct passive with a perfective reading, (60c) for the *ni yotte* passive with a past reading, and (60d) for the *ni yotte* passive with a perfective reading:

(60)

a. (= (41b))

*'Hamlet'-wa	Shakespeare-ni	kak-are-ta
'Hamlet'-TOP	Shakespeare-by	write-Pass-Pst

'Hamlet was written by Shakespeare'

b. (= (42b))

kimitu-syorui-ga	tekikoku no supai-ni	nusum-are-ta
secrest documents-NOM	spy from an enemy country-by	steal-Pass-Perf

'secret documents are under the state affected by having been stolen by a spy from an enemy country'

c. (= (41a))

'Hamlet'-wa	Shakespeare-ni yotte	kak-are-ta
'Hamlet'-TOP	Shakespeare-by	write-Pass-Pst

'Hamlet was written by Shakespeare'

d. (= (42a))

kimitu-syorui-ga	tekikoku no supai-ni yotte	nusum-are-ta
secrest documents-NOM	spy from an enemy country-by	steal-Pass-Perf

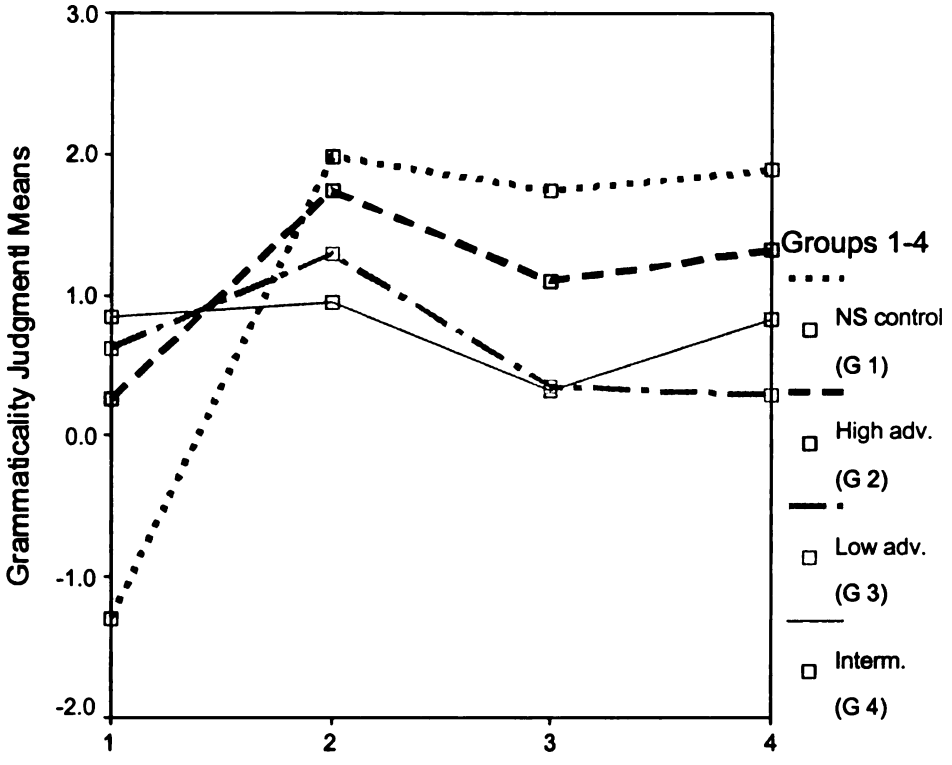
'secret documents have been stolen by a spy from an enemy country'

As before, Table 20 provides the statistical data on all groups' judgments of these four types of passives: the numbers 1 to 4 on the x-axis of Figure 11 represent the judgments of the four types in the order given above in (60). As displayed in Figure 11, Groups 1 and 2 appear to have judged the *ni* direct passive with a past reading differently from the other three grammatical passive sentences, i.e., the *ni* direct passive with a perfective reading and the *ni yotte* passive with both perfective and past readings. Group 3 seems to have judged the *ni* direct passive with a past reading slightly lower than the *ni* direct passive with a perfective reading, but still rated the former higher than the *ni yotte* passive. Finally, Group 4 appears to have rated all four types of passives without much difference.

Table 20: *Ni* direct and *ni yotte* passives with past and perfective readings

Sentence Types	*Groups*	*Mean*	*SD*	*N*
**ni* direct with past reading[a]	1	-1.290	.920	31
	2	.260	1.487	25
	3	.625	1.556	36
	4	.850	1.171	20
ni direct with perfective reading[b]	1	1.98	.0898	31
	2	1.74	.77	25
	3	1.29	1.07	36
	4	.95	1.04	20
ni yotte with past reading[c]	1	1.74	.56	31
	2	1.10	1.13	25
	3	.35	1.32	36
	4	.33	1.12	20
ni yotte with perfective reading[d]	1	1.89	.38	31
	2	1.32	.83	25
	3	.29	1.22	36
	4	.82	.89	20

a., b., c., d. The test sentences for the *ni* direct passive include #40 and #42 (for a past reading); and #44 and #46 (for a perfective reading) whereas the test sentences for the *ni yotte* passive involve #39 and #41 (for a past reading); and #43 and #45 (for a perfective reading).



1. **ni* direct w/past reading 3. *ni yotte* w/past reading
2. *ni* direct w/perfective reading 4. *ni* direct w/perfective reading

Figure 11: *Ni* direct and *ni yotte* passives with past and perfective readings

A Repeated-Measures ANOVA for all groups was run on the passive types. The results showed that there was a significant interaction effect between passive types and groups ($F(9, 324) = 19.016, p < .0005$). Thus a Repeated-Measures ANOVA was performed for each group. The results for Group 1 indicated that there was a significant passive-type main effect ($F(3, 90) = 260.634, p < .0005$). Tests of within-subjects contrasts showed that the *ni* direct passive with a past reading was judged significantly lower than the other three types of passives; and that there was no difference in judging the remaining three types of passives (except for the judgment difference between the *ni* direct passive with a perfective reading and the *ni yotte* passive with a past reading[16]). These suggest that Group 1 clearly judged the *ni* direct and *ni yotte* passives with past and

perfective readings on the basis of the perfective versus non-perfective distinction as effected. For Group 2, there was a significant passive-type main effect ($F(3, 72) = 9.421$, $p < .0005$). Tests of within-subjects contrasts indicated that the *ni* direct passive with a past reading was judged significantly lower than the other three types of passives;[17] and that no significant difference was found in judging the remaining three types of passives (except for the judgment difference between the *ni* direct passive with a perfective reading and the *ni yotte* passive with a past reading). These findings suggest that there was a tendency for Group 2 subjects to judge these four types of passives according to the perfective versus non-perfective distinction as it arose.[18]

For Group 3, there was also a significant passive-type main effect ($F(3, 105) = 5.260$, $p = .002$). Tests of within-subjects contrasts indicated 1) that the *ni* direct passive with a past reading was judged significantly lower than the one with a perfective reading;[19] 2) the *ni* direct passive with both readings was rated significantly higher than the *ni yotte* passive with both readings; and 3) that there was no significant judgment difference between the *ni yotte* passive with past and perfective readings. However, the fact that their respective mean judgment scores of the *ni yotte* passive were .35 and .29, suggests that Group 3 subjects did not have knowledge of this type of passive (see also the syntactic analysis of the *ni yotte* passive). All these findings indicate that there was a tendency (though not as clear as evinced for Group 2) for Group 3 subjects to judge the *ni* direct passive with a past reading differently from the one with a perfective reading.

Finally, there was not a significant passive-type main effect for Group 4 ($F(3, 57) = 1.563$, $p = .208$). Since the other possible classification of these four types of passives is in a *ni* direct passive and *ni yotte* passive contrast, another Repeated-Measures

ANOVA was run on this contrast with two readings of each passive type combined. This did not reveal a significant judgment difference ($F(1, 19) = 1.969, p = .177$), either. These results indicate that Group 4 subjects did not make either the perfective versus non-perfective or the *ni* direct passive versus *ni yotte* passive distinctions in rating these four types of passives.

In summary, in judging the *ni* direct and the *ni yotte* passives with past and perfective readings, there was a tendency for Group 2 subjects to base their judgments on the perfective versus non-perfective distinction when it arose just as the NS control group did. For Group 3, there was a weak tendency for them to rate the *ni* direct passive differently depending on their past and perfective readings. Group 4 subjects did not exhibit either the perfective versus non-perfective or the *ni* direct passive versus *ni yotte* passive distinctions in judging them.

4.3.2.3.1.2. Judgments of *iru*-marked perfective versus progressive readings

We now examine if the NNS subjects observed the perfective versus non-perfective contrast in judgment of *iru*-marked *ni* direct and *ni yotte* passives as effected. Recall that the *ni* direct passive with a progressive reading is ungrammatical while the others are grammatical according to Kuroda (1979). Example sentences of each type of passive are repeated in (61) below, i.e., (61a) for the *ni* direct passive with a progressive reading, (61b) for the *ni* direct passive with a perfective reading, (61c) the *ni yotte* passive with a progressive reading, and (61d) the *ni yotte* passive with a perfective reading:

(61)

a. (= (39b))

*atarasii konpyuutaa no puroguramu-ga John-ni tukur-are-te iru
new computer program-NOM -by make-Pass-Prog-Pres
'a new computer program is being made by John'

b. (= (40b))

intaanetto-wa sekai-zyuu no hito-bito-ni tukaw-are-te iru
Internet-NOM all over the world people-by use-Pass-Perf-Pres
'Internet is under the state affected by having been used by people all over the world'

c. (= (39a))

atarasii konpyuutaa no puroguramu-ga John-ni yotte tukur-are-te iru
new computer program-NOM -by make-Pass-Prog-Pres
'a new computer program is being made by John'

d. (= (40a))

intaanetto-wa sekai-zyuu no hito-bito-ni yotte tukaw-are-te iru
Internet-NOM all over the world people-by use-Pass-Perf-Pres
'Internet has been used by people all over the world'

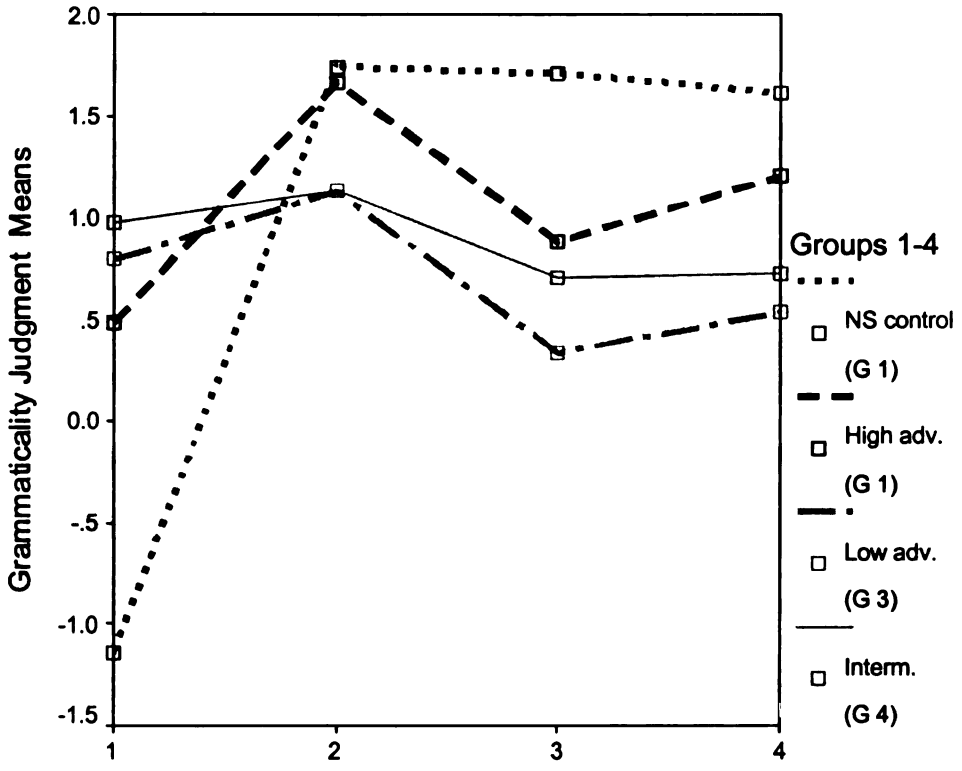
Table 21 gives the statistical data on all groups' judgments of these four types of passives: the numbers 1 to 4 on the x-axis of Figure 12 indicate the judgments of the four types in the order given above in (61). As is illustrated in Figure 12, Group 1 seems to have judged the ungrammatical *ni* direct passive with a progressive reading differently from the other three grammatical passives, i.e., the *ni* direct passive with a perfective reading and the *ni yotte* passive with both perfective and progressive readings. Group 2 appears to have rated the ungrammatical *ni* direct passive with a progressive reading differently from the grammatical *ni* direct passive with a perfective reading; however, their judgments of the *ni yotte* passive grammatical sentences with both readings seem to be somewhat lower than that of the *ni* direct passive grammatical sentences with a perfective reading, but higher than that of the *ni* direct passive ungrammatical sentences with a progressive reading. Group 3 seems to have judged the *ni* direct passive with a progressive reading marginally (at best) lower than the *ni* direct passive with a perfective

reading, but rated the former noticeably higher than the *ni yotte* passive with both readings. Lastly, Group 4 appears to have rated all four types of passives without much difference.

Table 21: *Ni* direct and *ni yotte* passives with progressive and perfective readings

Sentence Types	*Groups*	*Mean*	*SD*	*N*
**ni* direct with progressive reading[a]	1	-1.15	1.04	31
	2	.48	1.29	25
	3	.79	1.19	36
	4	.98	1.08	20
ni direct with perfective reading[b]	1	1.74	.58	31
	2	1.66	.77	25
	3	1.13	1.15	36
	4	1.12	.86	20
ni yotte with progressive reading[c]	1	1.71	.57	31
	2	.88	1.17	25
	3	.33	1.41	36
	4	.70	1.25	20
ni yotte with perfective reading[d]	1	1.61	.60	31
	2	1.20	1.02	25
	3	.53	1.32	36
	4	.72	1.06	20

a., b., c., d. The test sentences for the *ni* direct passive include #32 and #34 (for a progressive reading); and #36 and #38 (for a perfective reading) whereas the test sentences for the *ni yotte* passive involve #31 and #33 (for a progressive reading); and #35 and #37 (for a perfective reading).



1. *ni* direct w/progressive reading
2. *ni* direct w/perfective reading
3. *ni yotte* w/progressive reading
4. *ni yotte* w/perfective reading

Figure 12: *Ni* direct and *ni yotte* passives with progressive and perfective readings

A Repeated-Measures ANOVA for all groups was run on the passive types. The results showed that there was a significant interaction effect between passive types and groups ($F(9, 324) = 15.673, p < .0005$). Thus a Repeated-Measures ANOVA was performed for each group. The results for Group 1 indicated that there was a significant passive-type main effect ($F(3, 90) = 140.591, p < .0005$). Tests of within-subjects contrasts showed that the *ni* direct passive with a progressive reading was judged significantly lower than the other three types of passives, and that there was no significant judgment difference for the latter three types of passives. These suggest, as evidenced in the judgments of *ta*-marked passives, that Group 1 subjects judged the *ni*

direct and *ni yotte* passives with progressive and perfective readings on the basis of the perfective versus non-perfective distinction as effected.

The results of Repeated-Measures ANOVA for Group 2 showed that there was a significant passive-type main effect ($F(3, 72) = 6.691, p < .0005$). Tests of within-subjects contrasts indicated 1) that the *ni* direct passive with a progressive reading was judged significantly lower than the *ni* direct passive with a perfective reading as well as the *ni yotte* passive with a perfective reading, but was not judged differently from the *ni yotte* passive with a progressive reading; [20] and 2) the *ni yotte* passive with both readings was not rated differently from each other, but judged lower than the *ni* direct passive with a perfective reading. In all, the *ni* direct passive with a progressive reading was judged lower than the *ni* direct passive with a perfective reading whereas the judgments of the *ni yotte* passive were located between those of two readings of the *ni* direct passive. These findings all indicate that there was a tendency for Group 2 subjects to judge the *ni* direct and *ni yotte* passives with progressive and perfective readings on the basis of the perfective versus non-perfective distinction as it arose although their relatively lower ratings of the *iru*-marked *ni yotte* passive with a progressive reading made this differentiation pattern less transparent than that of *ta*-marked passives.

For Group 3, there was a significant passive-type main effect ($F(3, 105) = 3.002$, $p = .034$). Tests of within-subjects contrasts showed 1) that the *ni* direct passive with a progressive reading was not rated differently from the *ni* direct passive with a perfective reading and from both readings of the *ni yotte* passive; 2) that the *ni* direct passive with a perfective reading was judged significantly higher than the *ni yotte* passive with a progressive reading and the rating of the former approached a significant level with

respect to that of the *ni yotte* passive with a perfective reading ($p = .054$); and 3) two readings of the *ni yotte* passive were not judged differently from each other. These indicate that Group 3 did not judge these types of passives depending on their perfective versus non-perfective reading contrast as effected. On the other hand, a Repeated-Measures ANOVA on the syntactic classification, i.e., the *ni* direct passive and the *ni yotte* passive with two readings of each passive type combined, showed a significant passive-type main effect ($F(1, 35) = 4.919, p = .033$). This suggests that Group 3's judgments were based on the *ni* direct passive versus the *ni yotte* passive distinction.

Finally, a Repeated-Measures ANOVA for Group 4 showed that there was not a significant passive-type main effect ($F(3, 57) = .778, p = .511$). Nor did a Repeated-Measures ANOVA on the *ni* direct passive and the *ni yotte* passive (combined for two readings) reveal a significant judgment difference ($F(1, 19) = 1.639, p = .216$). These results suggest that Group 4 subjects did not make either a perfective versus non-perfective or a *ni* direct passive versus *ni yotte* passive distinction in rating *iru*-marked *ni* direct and *ni yotte* passives.

In short, in judging the *ni* direct and the *ni yotte* passives with progressive and perfective readings, the tendency emerged that Group 2 subjects based their judgments on the perfective versus non-perfective distinction when effected as did the NS control group, although it was less clear than that found for *ta*-marked passives. Group 3 subjects, responding differently from their judgments of *ta*-marked passives, based their judgments on the *ni* direct passive versus the *ni yotte* passive distinction. Group 4 did not exhibit any differential judgments of these four types of passives.

4.3.2.3.1.3. Summary of judgments of perfective versus non-perfective readings

In summary, in judging *ta-* and *iru*-marked *ni* direct and *ni yotte* passives with an inanimate subject carrying perfective and non-perfective readings (i.e., *ta*-marked past and *iru*-marked progressive readings), the tendency was found that the highly advanced group based their judgments on the perfective versus non-perfective distinction as effected although the tendency for *iru*-marked passives was less pronounced than that for *ta*-marked passives. The low advanced group demonstrated a perfective versus non-perfective distinction in rating the *ta*-marked *ni* direct passive, while they judged *iru*-marked passives on the basis of the *ni* direct passive versus the *ni yotte* passive distinction. The intermediate group failed to show any distinction in judging all these types of passives.

4.3.2.3.2. Judgments of the *ni yotte* indirect and direct passive with an adversative reading

The *ni yotte* marking is incompatible with an adversative reading since the former indicates a non-θ-subject status while the latter requires a θ-subject. We examine whether the NNS subjects made differential judgments in grammaticality between the *ni* passive and the *ni yotte* passive with an adversative reading on the basis that the former is consonant with an adversative reading whereas the latter is not. Specifically, we compare their judgments of the *ni* indirect passive (with intransitive and transitive verbs) to those of the *ni yotte* indirect passive as well as their rating of the *ni* direct passive to that of the *ni yotte* direct passive.

First, we look at the subjects' judgments of *ni* and *ni yotte* indirect passives with intransitive verbs carrying an adversative reading. Example sentences of both types are provided in (62) below, viz., (62a) for the *ni*-marked, hence grammatical, indirect passive and (62b) for the *ni yotte*-marked, hence ungrammatical, indirect passive:

(62)

a. (= (43a))

John-ga	warui toki-ni	tomodati-ni	ko-rare-ta
-NOM	at an inconvenient time	friend-by	come-Pass-Pst

b. (= (43b))

*John-ga	warui toki-ni	tomodai-ni yotte	ko-rare-ta
		-by	

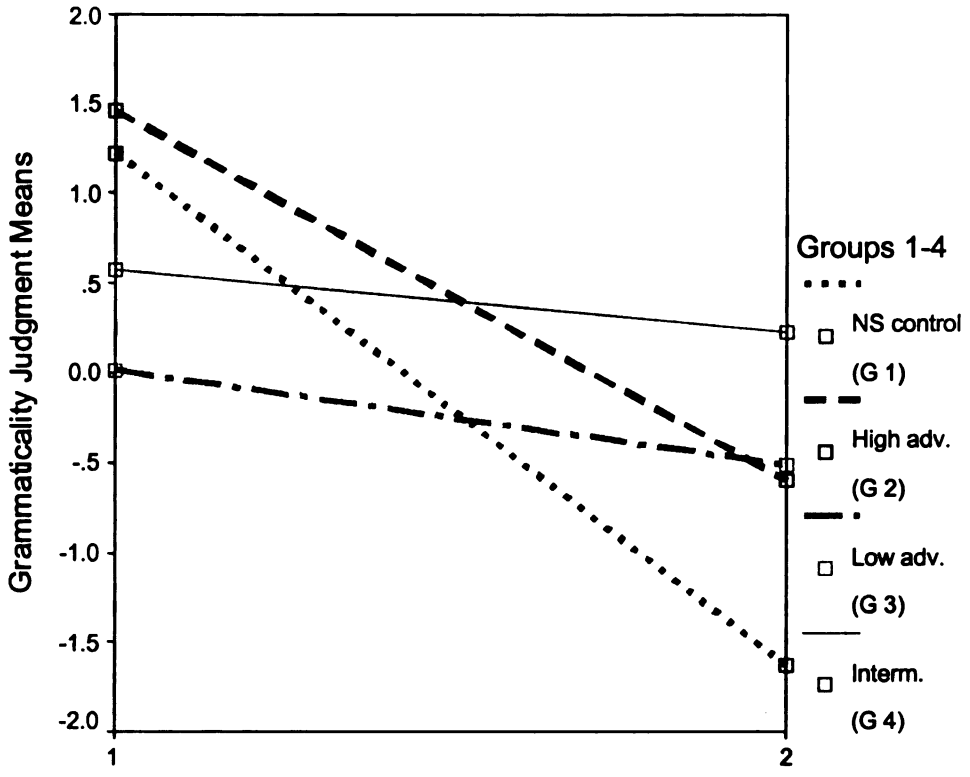
'John was adversely affected by his friend visiting him at an inconvenient time'

Table 22 provides the statistical data on all groups' judgments of these two types of passives. In Figure 13 numbers 1 and 2 on the x-axis represent the judgments of them. As shown in Figure 13, Groups 1 and 2 appear to have made a distinction in judging them depending on whether the indirect passive is marked by *ni* or *ni yotte*; in contrast, Groups 3 and 4 did not exhibit such distinction in judgment.

Table 22: *Ni* and *ni yotte* indirect passives with intransitive verbs with adversative readings

Sentence Types	*Groups*	*Mean*	*SD*	*N*
ni indirect w/intr. verbs[a]	1	1.23	.84	31
	2	1.46	.85	25
	3	.0139	1.37	36
	4	.58	1.38	20
**ni yotte* indirect w/intr. verbs[b]	1	-1.63	.61	31
	2	-.60	1.27	25
	3	-.51	1.32	36
	4	.22	1.09	20

a., b. The test sentences include #13 and #16 for the *ni* indirect passive; and #14 and #17 for the *ni yotte* indirect passive.



1. *ni* indirect w/intr. 2. **ni yotte* indirect w/intr.

Figure 13: *Ni* and *ni yotte* indirect passives with intr. verbs with adversative readings

A Repeated-Measures ANOVA for all groups was run on the passive types. The results showed that there was a significant interaction effect between passive types and groups ($F(3, 108) = 18.262, p < .0005$). Thus a Repeated-Measures ANOVA was performed for each group. The results for Groups 1 and 2 indicated that there was a significant passive-type main effect ($F(1, 30) = 335.428, p < .0005$ for Group 1; $F(1, 24) = 42.323, p < .0005$ for Group 2), suggesting that Groups 1 and 2 made a grammatical distinction in rating *ni* and *ni yotte* indirect passives with intransitive verbs carrying adversative readings depending on whether they are marked by *ni* or *ni yotte*. On the other hand, the ANOVA results of Groups 3 and 4 showed no significant judgment differences ($F(1, 35) = 3.251, p = .080$ for Group 3; $F(1, 19) = .831, p = .374$ for Group

4), indicating that these two groups made no distinction in rating them irrespective of the marking difference.

Second, we examine the subjects' judgments of *ni* and *ni yotte* indirect passives with transitive verbs carrying an adversative reading. Example sentences of both types are given in (63) below, i.e., (63a) for the *ni*-marked, hence grammatical, indirect passive and (63b) for the *ni yotte*-marked, hence ungrammatical, indirect passive:

(63)

a. (= (56a))

warui koto ni,	Bill-wa	Jane-ni	girlfriend kara no tegami-o	yom-are-ta
unfortunately	-TOP	-by	letter from his girlfriend-ACC	read-Pass-Pst

b. *warui koto ni, Bill-wa Jane-ni yotte girlfriend kara no tegami-o yom-are-ta
-by

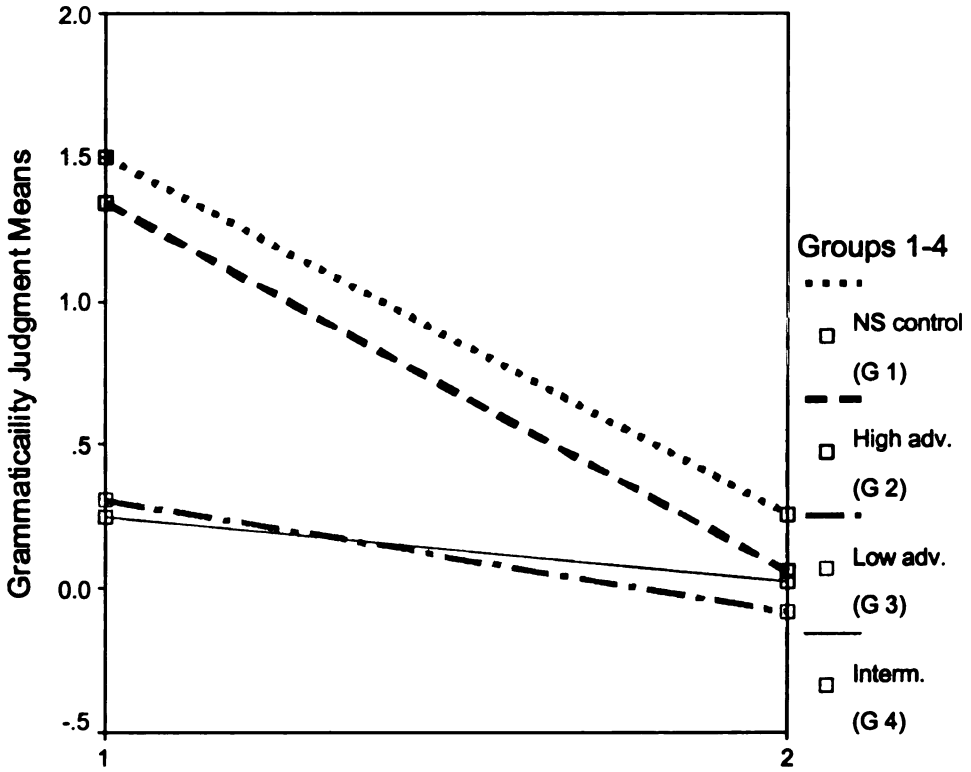
'unfortunately, Bill was adversely affected by Jane reading a letter from his girlfriend'

Table 23 presents the statistical data on all groups' judgments of these two passives. In Figure 14 numbers 1 and 2 on the x-axis represent the judgments of each type of passive. As illustrated in Figure 14, Groups 1 and 2 appear to have made a distinction in rating them, as found in their judgments of the indirect passive with intransitive verbs,[21] whereas Groups 3 and 4 rated them similarly.

Table 23: *Ni* and *ni yotte* indirect passives with transitive verbs with adversative readings

Sentence Types	*Groups*	*Mean*	*SD*	*N*
ni indirect w/tr. verbs[a]	1	1.50	.79	31
	2	1.34	.73	25
	3	.31	1.56	36
	4	.25	1.28	20
**ni yotte* indirect w/tr. verbs[b]	1	.26	1.22	31
	2	.0600	1.45	25
	3	-0.833	1.48	36
	4	.0250	1.11	20

a., b. The test sentences include #19 and #22 for the *ni* indirect passive; and #20 and #23 for the *ni yotte* indirect passive.



1. *ni* indirect w/tr. 2. **ni yotte* indirect w/tr.

Figure 14: *Ni* and *ni yotte* indirect passives with tr. verbs with adversative readings

A Repeated-Measures ANOVA for all groups was run on the passive types. The results showed that there was a significant interaction effect between passive types and

groups ($F(3, 108) = 3.575, p = .016$). Thus a Repeated-Measures ANOVA was performed for each group. The results for Groups 1 and 2 indicated that there was a significant passive-type main effect ($F(1, 30) = 21.430, p < .0005$ for Group 1; $F(1, 24) = 28.461, p < .0005$ for Group 2), suggesting that these two groups judged the *ni yotte* indirect passive differently from the *ni* indirect passive. In contrast, the ANOVA results of Groups 3 and 4 showed no significant judgment differences ($F(1, 35) = 1.549, p = .222$ for Group 3; $F(1, 19) = .865, p = .364$ for Group 4), indicating that they did not make differential judgments of them.

Third, we investigate subjects' judgments of the *ni* direct and the *ni yotte* direct passives carrying an adversative reading. Example sentences of both types are repeated in (64) below, viz., (64a) for the *ni*-marked, hence grammatical, direct passive and (64b) for the *ni yotte*-marked, hence ungrammatical, direct passive:

(64)

a. (= (43c))

Jane-ga	mukasi no kare-ni	ni-zikan mo	mat-arete	komat-ta
-NOM	ex-boyfriend-by	as many as 2 hours	wait-Pass	annoy-Pst

b. (= (43d))

*Jane-ga	mukasi no kare-ni yotte	ni-zikan mo	mat-arete	komat-ta
	-by			

'Jane was annoyed by being adversely affected by having been waited for by her ex-boyfriend for as many as two hours'

Table 24 provides the statistical data on all groups' judgments of these two types of passives. In Figure 15 numbers 1 and 2 on the x-axis represent the judgments of each type of passive. As displayed in Figure 15, Groups 1, 2, and 3 appear to have made a distinction in rating *ni* and *ni yotte* direct passives more clearly as their proficiency levels increased. Group 4 seems not to have rated them differently.

Table 24: *Ni* and *ni yotte* direct passives with adversative readings

Sentence Types	*Groups*	*Mean*	*SD*	*N*
ni direct passive[a]	1	1.84	.58	31
	2	1.52	1.08	25
	3	1.39	1.05	36
	4	.65	1.42	20
**ni yotte* direct passive[b]	1	-.42	1.36	31
	2	.24	1.67	25
	3	.67	1.62	36
	4	.65	1.42	20

a., b. The test sentences include #25 for the *ni* direct passive and #26 for the *ni yotte* passive.

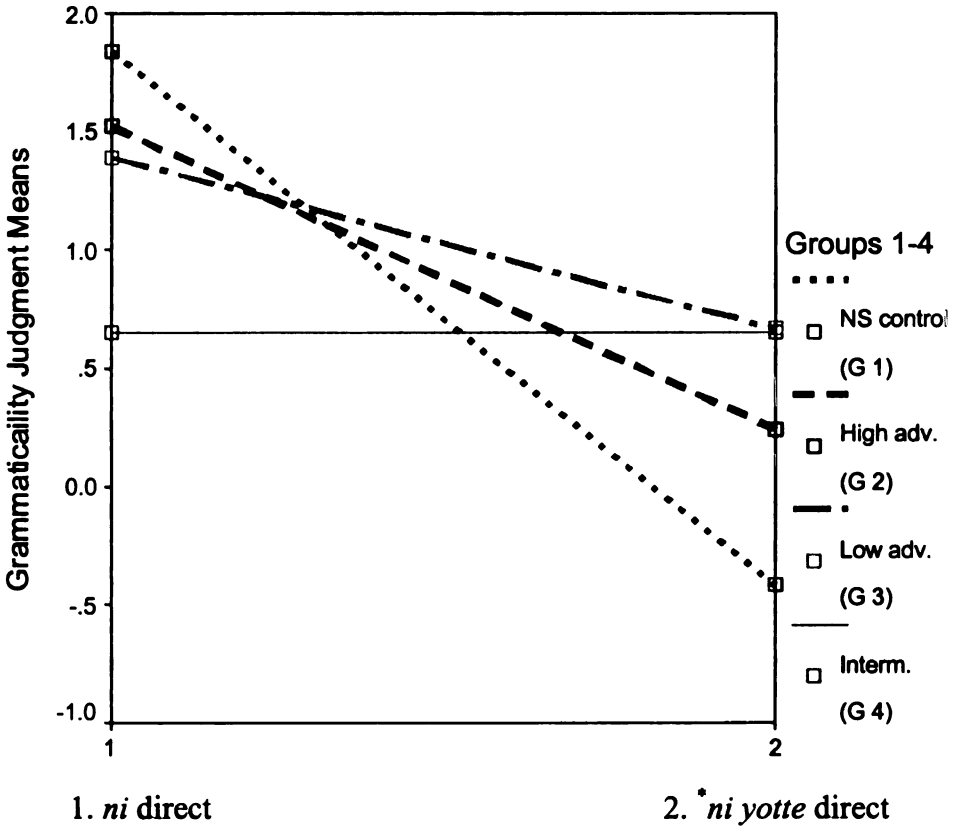


Figure 15: *Ni* and *ni yotte* direct passives with adversative readings

A Repeated-Measures ANOVA for all groups was run on the passive types. The results showed that there was a significant interaction effect between passive types and

groups ($F(3, 108) = 7.704, p < .0005$). Thus a Repeated-Measures ANOVA was performed for each group. The results for Groups 1, 2, and 3 indicated that there was a significant passive-type main effect ($F(1, 30) = 74.168, p < .0005$ for Group 1; $F(1, 24) = 10.798, p = .003$ for Group 2; $F(1, 35) = 6.017, p = .019$ for Group 3), suggesting that these three groups judged *ni* and *ni yotte* direct passives differently. In contrast, the ANOVA results of Group 4 showed no significant judgment difference ($F(1, 19) = .000$, $p = 1.000$), indicating that Group 4 subjects did not make differential judgments of them.

However, in order to fully determine that Groups 2 and 3's differential judgments between *ni* and *ni yotte* direct passives with adversative readings reflected their knowledge that the direct passive is compatible with a *ni* marking but not with a *ni yotte* marking, it is necessary to show that the judgment difference between *ni* and *ni yotte* direct passives with pronounced adversative readings was greater than that between *ni* direct and *ni yotte* passives without them as exemplified by the test sentences used for the syntactic analysis. This is so because the results of the syntactic analysis showed that the *ni yotte* passive was judged lower than the *ni* direct passive by Groups 2 and 3. In other words, it is essential to demonstrate that the (ungrammatical) *ni yotte* direct passive sentences with an adversative reading received a significantly lower grammaticality judgment than the (grammatical) *ni yotte* sentences lacking in such connotation.[22,23]

Thus, a Repeated-Measures ANOVA for all groups was run on two types of *ni yotte* passive sentences: one type with an adversative reading and the other without it (used for the syntactic analysis)[24]. The results showed that there was a significant interaction effect between passive types and groups ($F(3, 108) = 8.653, p < .0005$). The Repeated-Measures ANOVAs for each group indicated that Group 1 judged these two

types of the *ni yotte* passive differently ($F(1, 30) = 33.815, p < .0005$), but that Groups 2, 3, and 4 judged them indiscriminately ($F(1, 24) = 1.988, p = .171$ for Group 2; $F(1, 35) = 1.938, p = .173$ for Group 3; $F(1, 19) = 1.776, p = .198$ for Group 4). These suggest that NNS groups did not judge the two types of *ni yotte* passives differently depending on whether or not they carried an adversative reading. Hence, it does not appear that Groups 2 and 3's differential judgments between *ni* and *ni yotte* direct passives with adversative readings clearly reflected their knowledge of the *ni* versus *ni yotte* marking difference.

In all, only the highly advanced group made contrastive judgments in grammaticality between *ni* and *ni yotte* indirect passives carrying adversative readings. On the other hand, no NNS group demonstrated clear differential judgments in grammaticality between the *ni* direct passive and the *ni yotte* direct passive with an adversative reading in that their judgment differences were not significantly larger than those found between the grammatical *ni* direct and *ni yotte* passives.

4.3.2.3.3. Judgments of verb-induced viewpoint differences

The *ni* direct passive is harmonious with an expression of a personally involved situation whereas the *ni yotte* passive is appropriate to depict a situation in an impersonal, newspaper-report like manner. This viewpoint difference between the *ni* direct and the *ni yotte* passives may be effected by lexical choice, particularly verbs. This section presents the analysis of NNS subjects' judgments of two such cases: 1) Japanese native versus Sino-Japanese verb contrasts; and 2) affective (defined later) versus unaccusative verb contrasts.

4.3.2.3.3.1. Judgments of Japanese native versus Sino-Japanese verb contrasts

Japanese native verbs are in harmony with the *ni* direct passive where situations are expressed in an involved, personal manner, while Sino-Japanese verbs are suitable for the *ni yotte* passive in which situations are depicted in an objective report-like fashion. We investigate if the subjects made appropriate grammatical judgments of the *ni* direct passive and, in particular, the *ni* yotte passive in accordance with the above stated characterization. Specifically, we first examine the judgments of the *ni* direct passive with Japanese native verbs and those of the *ni yotte* passive with Sino-Japanese verbs to see if the subjects observed a basic distinction between them. Second, we ask if they made a grammaticality distinction in judgment of *ni yotte* passive sentences used with Japanese native verbs vis-à-vis those containing Sino-Japanese verbs in order to further investigate whether or not they had the knowledge that the *ni yotte* passive is restricted to an objective viewpoint expression.

Since lexical knowledge of verbs used in these passive sentences was critical in judging them, NNS subjects who failed to choose correct meanings of the verbs in the vocabulary test were excluded from the subject population for those sentences where incorrectly selected verbs were used.[25]

First, we examine the subjects' judgments of the *ni* direct passive with Japanese native verbs and the *ni yotte* passive with Sino-Japanese verbs (both grammatical). Example sentences of both types are provided in (65) below, i.e., (65a) for the former and (65b) for the latter:

(65) a. (= (44a))

Bill-wa kawaii musuko-ni koros-are-ta
-TOP beloved son-by kill-Pass-Pst
'Bill was affected by being killed by his own beloved son'

b. (= (44c))

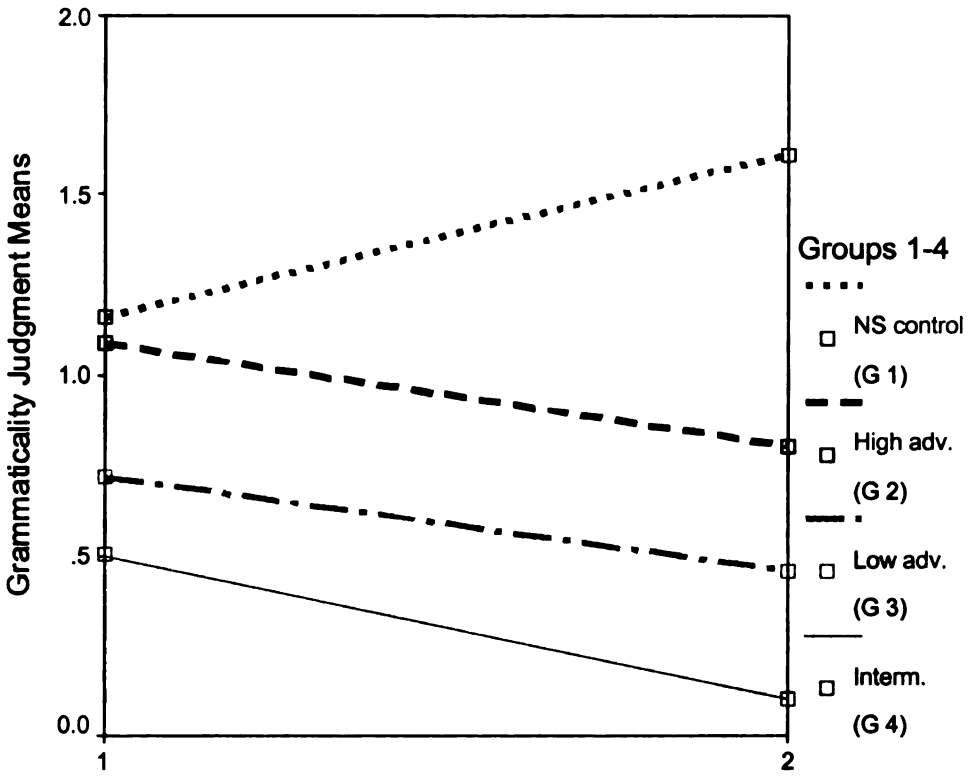
Bill-wa CIA-ni yotte satugai-s-are-ta
-TOP the CIA-by murder-Pass-Pst
'Bill was murdered by the CIA'

Table 25 provides the statistical data on all groups' judgments of them. In Figure 16 numbers 1 and 2 on the x-axis represent the judgments of each type of passive. As illustrated in Figure 16, for each group, there does not seem any great difference in judging them.

Table 25: The *ni* direct passive with Japanese native verbs and the *ni yotte* passive with Sino-Japanese verbs

Sentence Types	*Groups*	*Mean*	*SD*	*N*
ni direct with Japanese native verbs[a]	1	1.161	1.150	31
	2	1.087	1.125	23
	3	.717	1.636	23
	4	.500	1.179	10
ni yotte with Sino-Japanese verbs[b]	1	1.61	.60	31
	2	.80	1.38	23
	3	.46	1.55	23
	4	.100	1.84	10

a., b. The test sentences include #1 and #4 for the *ni* direct passive; and #3 and #6 for the *ni yotte* passive.



1. *ni* direct with Japanese verbs 2. *ni yotte* with Chinese verbs

Figure 16: The *ni* direct passive with Japanese native verbs and the *ni yotte* passive with Sino-Japanese verbs

A Repeated-Measures ANOVA for all groups was run on the passive types. The results showed that there was neither a significant passive-type main effect ($F(1, 83) = .389, p = .534$) nor a significant interaction effect between passive types and groups ($F(3, 83) = 1.322, p = .273$), suggesting that all groups judged the *ni* direct passive with Japanese native verbs and the *ni yotte* passive with Sino-Japanese verbs without difference. This finding contrasts with that obtained in the analysis of three syntactic types of passives where the *ni* direct passive was judged higher than the *ni yotte* passive by Groups 2 and 3. There are two possible sources for the different results arising between the current analysis and the syntactic analysis: 1) the *ni* direct passive was

judged lower in the former analysis than in the latter; or 2) the *ni yotte* passive in the former analysis was judged higher than in the latter.

In order to test the first possibility, a Repeated-Measures ANOVA for all groups was run on two types of *ni* direct passive sentences: one type used for the current analysis and the other for the syntactic analysis. The result showed that there was a significant passive-type main effect ($F(1, 105) = 12.940, p < .0005$), but that there was no interaction effect ($F(3, 105) = .715, p = .545$), suggesting that *ni* direct passive sentences used for the current analysis were rated lower than those used for the syntactic analysis. Next, to test the second possibility, a Repeated-Measures ANOVA for all groups was similarly performed on two types of *ni yotte* passive sentences: one type used for the current analysis and the other for the syntactic analysis. The result showed that there was no significant passive-type main effect ($F(1, 86) = .409, p = .524$) nor was there an interaction between passive types and groups ($F(3, 86) = .632, p = .597$), suggesting that all groups rated the two types of *ni yotte* passives without difference from each other. These all suggest that the similar judgment between the *ni* direct passive with Japanese native verbs and the *ni yotte* passive with Sino-Japanese verbs was due to the lower ratings of the former type of passive, not because of the higher ratings of the latter. Note, however, that the *ni* direct passive with Japanese native verbs was judged clearly as grammatical as shown in Table 25.

In summary, Groups 2 and 3 judged both the *ni* direct passive with Japanese native verbs and the *ni yotte* passive with Sino-Japanese verbs as grammatical while Group 4 judged both of them without differentiation, but very low in grammaticality.

Second, we compare the subjects' judgments of *ni yotte* passive sentences with Japanese native verbs (describing a personal perspective) vis-à-vis those with Sino-Japanese verbs (depicting an impersonal one) in order to explore if their judgments of them were based on the observation that the *ni yotte* passive was consonant with Sino-Japanese verbs in an impersonal context, but not with Japanese native verbs in a personalized one. Example sentences of both types are given in (66) below, viz., (66a) is the *ni yotte* passive with Sino-Japanese verbs (grammatical), and (66b) is that with Japanese native verbs (ungrammatical):

(66)

a. (= (44c))

Bill-wa	CIA-ni yotte	satugai-s-are-ta
-TOP	the CIA-by	murder-Pass-Pst

'Bill was murdered by the CIA'

b. (= (44b)

*Bill-wa	kawaii musuko-ni yotte	koros-are-ta
-TOP	beloved son-by	kill-Pass-Pst

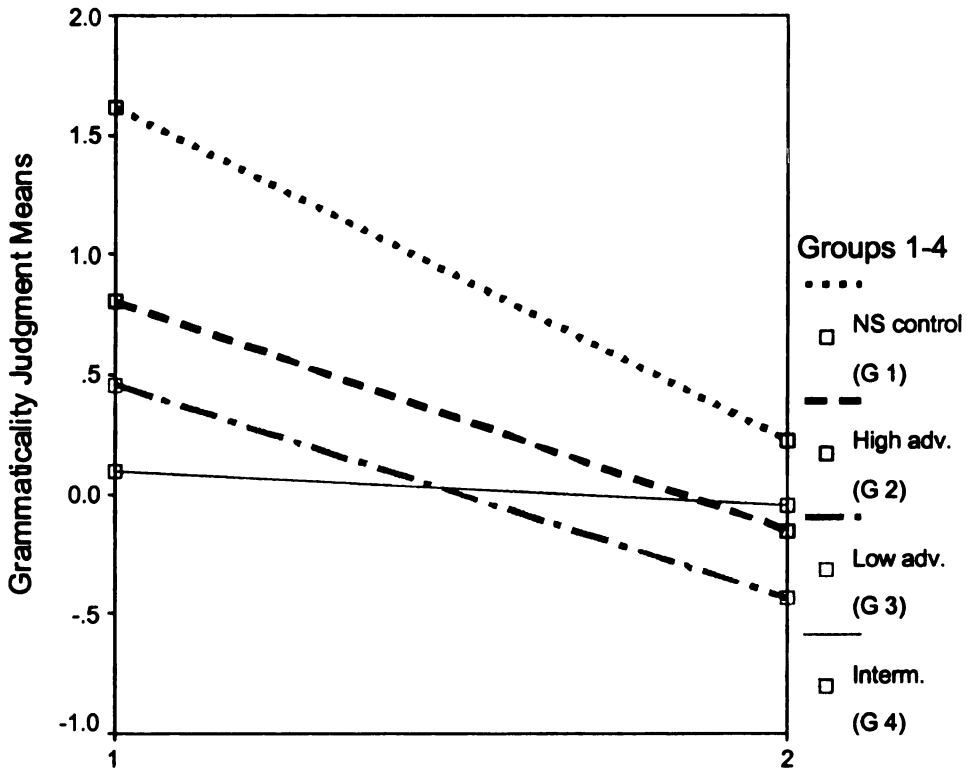
'Bill was killed by his own beloved son'

Table 26 provides the statistical data on all groups' judgments of them. In Figure 17 numbers 1 and 2 on the x-axis represent the judgments of each type of passive. As shown in Figure 17, Groups 1, 2, and 3 (but not Group 4) seem to have made a distinction in grammaticality between *ni yotte* passive sentences with Sino-Japanese verbs and with Japanese native ones.[26]

Table 26: The *ni yotte* passive with Sino-Japanese verbs and with Japanese native verbs

Sentence Types	*Groups*	*Mean*	*SD*	*N*
ni yotte with Sino-Japanese verbs[a]	1	1.61	.60	31
	2	.80	1.38	23
	3	.46	1.55	23
	4	.100	1.84	10
**ni yotte* with Japanese native verbs[b]	1	.23	1.03	31
	2	-.15	1.18	23
	3	-.43	1.60	23
	4	-.0500	1.48	10

a., b. The test sentences include #3 and #6 for Sino-Japanese verbs; and #2 and #5 for Japanese native verbs.



1. *ni yotte* w/Chinese verbs 2. **ni yotte* w/Japanese verbs

Figure 17: The *ni yotte* passive with Sino-Japanese verbs and with Japanese native verbs

A Repeated-Measures ANOVA for all groups was run on the passive types. The results showed that there was a significant passive-type effect ($F(1, 83) = 25.103, p < .0005$) without an interaction effect ($F(3, 83) = 1.951, p = .128$). The Repeated-Measures ANOVAs' results for Groups 1, 2, and 3 indicated that there was a significant passive-type main effect ($F(1, 30) = 55.304, p < .0005$ for Group 1; $F(1, 22) = 8.660, p = .008$ for Group 2; $F(1, 22) = 15.474, p = .001$ for Group 3), suggesting that each of these three groups judged the *ni yotte* passive with Japanese native verbs differently from those with Sino-Japanese ones. In contrast, the ANOVA results of Group 4 showed no significant judgment difference ($F(1, 9) = .033, p = .859$), indicating that Group 4 made no distinction in rating between the two.

In summary, Groups 2 and 3 made differential judgments of the *ni yotte* passive with Sino-Japanese and Japanese native verbs: the former was rated as grammatical whereas the latter was rejected as ungrammatical. On the other hand, Group 4 failed to demonstrate such a distinction.

On the whole, Groups 2 and 3 judged the *ni* direct passive and the *ni yotte* passive based on the observation that Japanese native verbs (expressing a personal standpoint) are fit with the former type passive whereas Sino-Japanese verbs (expressing an objective one) are suitable for the latter type. Furthermore, Groups 2 and 3 rejected the *ni yotte* passive when used with Japanese native verbs as ungrammatical, reflecting that the *ni yotte* passive is not highly compatible with a personalized expression. Group 4 failed to show any of these distinctions.

4.3.2.3.3.2. Judgments of affective and unaccusative verb contrasts

Verbs such as *miru* 'see'and *kiku* 'hear' (referred to as affective verbs henceforth) may be used in the *ni* direct passive but not in the *ni yotte* passive, partly because a passive sentence with this type of verbs expresses the state of the passive subject personally affected by the event described in it, and in part because there are unaccusative versions corresponding to affective verbs without affected connotation, which replace the *ni yotte* passive. We investigate if the subjects based their judgments of these sentences with affective and unaccusative verbs on the observation given above. Specifically, we first examine whether they made a grammaticality distinction between the *ni* direct and the *ni yotte* passives with affective verbs; and, second, ask if they accepted the unaccusative versions of the corresponding sentences.

Again, it was necessary to exclude those NNS subjects who failed to respond correctly to the distractor sentence (#75) testing knowledge of the temporal adverbial phrase marker *o* (phonetically identical with, yet syntactically different from, an accusative marker *o*)[27], since knowledge of it was important to judge the relevant passive sentences.

We first examine the subjects' judgments of the *ni* direct and the *ni yotte* passives with affective verbs. Example sentences of both types are repeated in (67) below, i.e., (67a) for the former (grammatical) and (67b) for the latter (ungrammatical):

(67)

a. (= (45a))

Mary to hanasi-te iru	tokoro-o, Bill-ga	gaaruhurendo-ni	kik-are-ta
talking to Mary	as -NOM	his girlfriend-by	hear-Pass-Pst

b. (=(45b))

*Mary to hanasi-te iru	tokoro-o, Bill-ga	gaaruhurendo-ni yotte his girlfriend-by	kik-are-ta

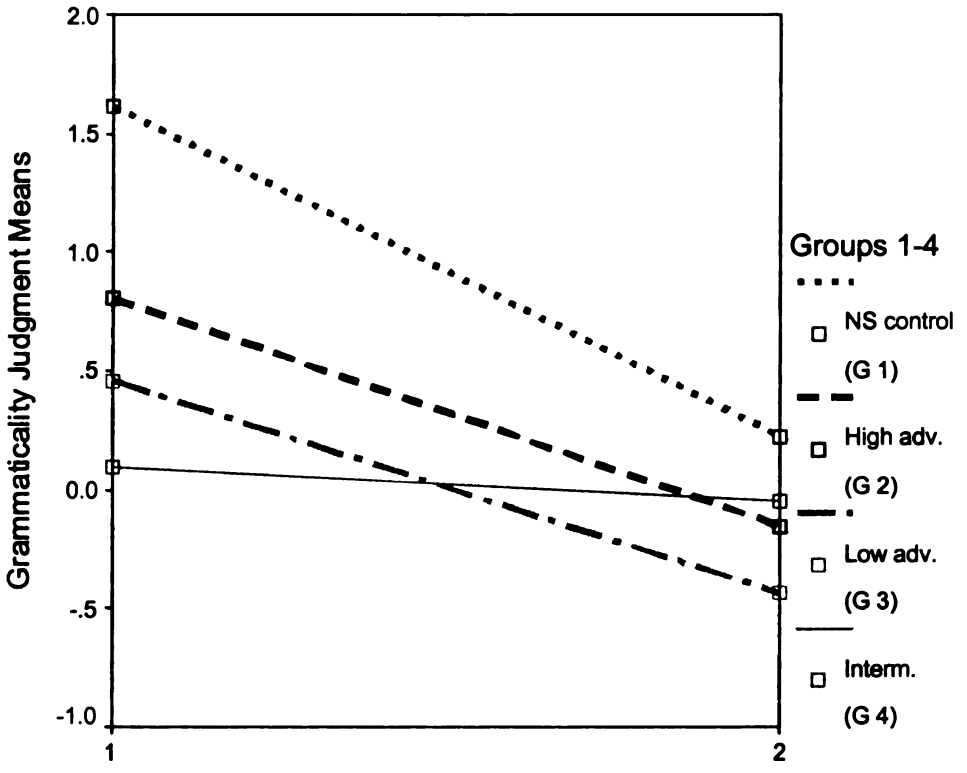
'Bill was affected by being heard by his girlfriend as he was talking to Mary'

Table 27 provides the statistical data on all groups' judgments of these two types of passive sentences. In Figure 18 numbers 1 and 2 on the x-axis represent the judgments of each type of passive. As shown in Figure 18 Groups 1 and 2 seem to have made a distinction in grammaticality between the two, while Group 3 did so to a much smaller degree. Group 4 appears not to have made any differentiation between them.[28]

Table 27: *Ni* direct and *ni yotte* passives with affective verbs

Sentence Types	*Groups*	*Mean*	*SD*	*N*
ni direct passive[a]	1	.08065	1.111	31
	2	.864	1.037	22
	3	.450	1.276	20
	4	-.346	1.231	13
**ni yotte* passive[b]	1	-.77	1.12	31
	2	-.0682	1.29	22
	3	-.15	1.38	20
	4	-.35	1.03	13

a., b. The test sentences include #7 and #10 for the *ni* direct passive; and #8 and #11 for the *ni yotte* passive.



1.*ni* direct with affective verbs 2. **ni yotte* with affective verbs

Figure 18: *Ni* direct and *ni yotte* passives with affective verbs

A Repeated-Measures ANOVA for all groups was run on the passive types. The results showed that there was a significant passive-type main effect ($F(1, 82) = 11.269$, p .001) without an interaction effect between passive types and groups ($F(3, 82) = 1.144$, $p = .336$). Repeated-Measures ANOVAs for Groups 1 and 2 indicated that there was a significant passive-type main effect ($F(1, 30) = 18.827$, $p < .0005$ for Group 1; $F(1, 21) = 6.507$, $p = .019$ for Group 2), suggesting that these two groups judged the *ni* direct passive differently from the *ni yotte* passive when used with affective verbs. In contrast, the ANOVA results of Group 3 and 4 showed no significant judgment differences ($F(1, 19) = 1.736$, $p = .203$ for Group 3; ($F(1, 12) < .0005$, $p = 1.000$ for Group 4), indicating that Groups 3 and 4 did not make a distinction in rating the two.

Furthermore, it was necessary to ensure that Group 2's lower judgments of the *ni yotte* passive sentences relative to its *ni* direct passive counterparts were based on the observation that the *ni yotte* passive is not compatible with affective verbs. Hence, Group 2 judgments of the *ni yotte* passive with affective verbs were compared to those of the *ni yotte* passive in the syntactic analysis. There was a significant passive-type main effect ($F(1, 21) = 9.240$, $p = .006$), suggesting that Group 2 subjects did judge the ungrammatical former type significantly lower than the grammatical latter type.

In summary, Group 2 made a differential judgment between the *ni* direct and the *ni yotte* passives with affective verbs: the former type was rated as grammatical whereas the latter was not accepted. On the other hand, Groups 3 and 4 failed to demonstrate such a distinction.

Second, we look at the subjects' judgments of unaccusative versions corresponding to the *ni* direct passive sentences examined above. As before, it was necessary to exclude from the subject population those NNS subjects who failed to indicate their knowledge of unaccusative verbs, i.e., *mieru* 'visible, be seen' and *kikoeru* 'audible, be heard' in the vocabulary test.[29] An example sentence of the unaccusative version is given in (68) below:

(68) gaaruhurendo-ni, Bill-ga Mary to hanasi-te iru tokoro-ga kikoe-ta
his girlfriend-to -NOM talking to Mary as audible-Pst
'Bill was audible to his girlfriend as he was talking to Mary'

Table 28 provides the statistical data on all groups' judgments of the unaccusative sentences. As shown, Group 1 unexpectedly rejected these sentences with unaccusative

verbs whereas Groups 2, 3, and 4 weakly accepted them (see Discussion for the NS control group rejection).

Table 28: Unaccusative verbs

Groups	*Mean*	*SD*	*N*
1	-.806	1.167	31
2	.318	1.341	22
3	.355	1.462	31
4	.125	1.234	20

Note: test sentences included #9 and #12.

A Oneway ANOVA was conducted on all four subject groups to explore how different each group judgments were from each other. The results showed a significant difference between groups ($F(3, 100) = 5.129, p = .002$). The Tukey HSD results showed that Group 1 was different from Groups 2 and 3, but not from Group 4; and that Groups 2, 3, and 4 were not different from one another. Thus, Groups 2, 3, and 4 weakly accepted the unaccusative sentences while Group 1 did not.

On the whole, in judging the *ni* direct and the *ni yotte* passives with affective verbs, Group 2 made a differential judgment between the two by accepting the former and not accepting the latter whereas Groups 3 and 4 did not demonstrate such a contrast. However, in rating the unaccusative sentences, Group 1 failed to judge them as grammatical while Groups 2, 3, and 4 did so, but only weakly.

4.3.2.3.3.3. Summary of judgments of verb-induced viewpoint differences

In summary, by examining the subjects' judgments of the *ni* direct and, in particular, the *ni yotte* passive sentences with respect to verb-induced viewpoint differences, it was found that the highly advanced and low advanced groups accepted

both the *ni* direct passive sentences with Japanese native verbs (expressing an involved viewpoint) and the *ni yotte* passive sentences with Sino-Japanese verbs (expressing an objective one). Furthermore, both groups rejected the *ni yotte* passive when used with Japanese native verbs, suggesting these subjects' knowledge that they are not compatible in viewpoint terms. Next, the highly advanced group, but not the low advanced group, made a differential judgment between the *ni* direct passive grammatical sentences and the *ni yotte* passive ungrammatical sentences with affective verbs. The intermediate group failed to show any distinction examined above. Finally, in rating unaccusative sentences, all NNS groups accepted them weakly.

CHAPTER 5

DISCUSSION

5.1. Introduction

This chapter first discusses the results of the analyses of linguistically naïve and sophisticated NSs' grammaticality judgments and then considers the implications of the findings of the NNSs' judgments of syntactic and semantic properties of Japanese passives.

5.2. Linguistically naïve and sophisticated native speakers' grammaticality judgments

In examining the grammaticality judgments by linguistically naïve and sophisticated NSs, it was found, somewhat surprisingly, that the non-linguists made judgments in nearly full agreement with the theory predictions whereas the linguists only agreed with the predictions in approximately 45% to 70% (depending on measurement) of 57 passive test sentences under investigation. In terms of the group judgment consistency, the non-linguists gave inconsistent judgments only about 7% of the time (two cases out of 27) whereas the linguists did so about 30% of the time (eight out of 27). Thus, the present study clearly demonstrated that ordinary NSs of Japanese observe Hoshi (1994a; 1999) and Kuroda's (1979) characterizations of passives including delicate semantic nuances in grammaticality judgments.

Why then did the linguistically sophisticated group render judgments differently from the theory predictions and exhibit unstable judgments? There are at least two

possible factors which may have influenced linguistically sophisticated NSs' judgment processes but not linguistically naïve NSs'. First, the subjects of the former group may have undergone the phenomenon described tersely in Fraser (1971) as follows: "I think this issue is fairly clear. It will be resolved by speakers whose intuitions about the sentences in question are sharper than mine, which have been blunted by frequent worrying about these cases" (p. 178). (See Chomsky (1962) for a similar comment on a loss of linguistic intuitions in the short term.) That is to say, linguistically sophisticated NSs may have fallen into a state where their judgments become blurred, at least in the short term, due to exposure to and reflection upon closely related sentences with subtle differences. Indeed, the questionnaire developed for the present study contained as many as 62 sentences all of which concerned properties of Japanese passives.[1] Perhaps, an increased number of distractor sentences in the grammaticality judgment questionnaire could have led at least to a reduction of this phenomenon.

Second, perhaps not surprisingly, linguistically sophisticated NSs may have attempted to look for reasons guiding their judgment of a given sentence owing to their training and practice in performing such analysis (Greenbaum, 1977a; 1977b, cited in Schütze, 1996). In so doing, they may have fallen susceptible to the situation where they inadvertently focused on aspect(s) of the test sentence irrelevant to the present study, thereby misleading them to an incorrect assessment of it. (See Schütze, 1996 for a general discussion of the possible pitfalls linguists may fall into during judgment processes; and Valian, 1982 for an insightful consideration of the parallels between linguists' use of their own judgments and expert judgment in other fields.)

5.3. Non-native speakers' grammatical and ungrammatical judgments of three syntactic types of passives

For the sake of illustration, both grammatical and ungrammatical example sentences of three syntactic types of passives are provided in (69)-(71) below. Sentences in (69) illustrate the *ni* direct passive; the ungrammatical example (69b) results from the lack of θ-role suppression:

(69) (= (35)) a. Mary-wa John-ni itumo soodan-s-are-ru
-TOP -by always consult-Pass-Pres
'Mary is affected by being always consulted by John'

b. *Mary-wa John-ga itumo soodan-s-are-ru
-TOP -NOM

Sentences in (70) show the *ni yotte* passive; the first ungrammatical type (70b) results from the lack of accusative case absorption, while the second (70c) from the lack of θ-role suppression:

(70) (= (34)) a. utukusii uta-ga biitoruzu-ni yotte takusan tukur-are-ta
beautiful songs-NOM the Beatles-by a lot make-Pass-Pst
'many beautiful songs were made by the Beatles'

b. *biitoruzu-ni yotte utukusii uta-o takusan tukur-are-ta
-by -ACC

c. *utukusii uta-wa biitoruzu-ga takusan tukur-are-ta
-TOP -NOM

Sentences in (71) exemplify the *ni* indirect passive; the first ungrammatical type (71b) is unpassivized in its embedded clause, and the second one (71c) is passivized:

(71) (= (36))

a. John-wa kodomo-ni kuruma no mado-o war-are-ta
-TOP child-by car window-ACC break-Pass-Pst
'John was affected by a child breaking the car window'

b. *John-wa kodomo-ga kuruma no mado-o war-are-ta
-TOP child-NOM car window -ACC

c. *John-wa kuruma no mado-ga kodomo-ni war-are-ta
-TOP car window-NOM child-by

First, through analysis of the NNS groups' judgments of the grammatical sentences of these three syntactic types of passives, it was found that the *ni* direct passive such as (69a) above was judged highest whereas the other two types of passives were rated indistinguishably. It was also evidenced that both the highly advanced and the low advanced groups approximated the NS group in judging the *ni* direct passive. On the other hand, only the highly advanced group approximated the NS control group in rating the *ni yotte* passive such as (70a) while no NNS group did so in judging the *ni* indirect passive such as (71a).

Second, the analyses of the ungrammatical sentences vis-à-vis their grammatical counterparts revealed that the *ni* direct passive ungrammatical sentences (e.g., (69b)) were most clearly differentiated from the grammatical ones, and that the *ni yotte* passive ungrammatical sentences (e.g., (70b) and (70c)) were distinguished only by the highly advanced group, while one type of the *ni* indirect passive ungrammatical sentences (e.g., the unpassivized one (71b)) was distinguished from the grammatical ones by both the highly advanced and the low advanced groups. Yet the other type of the *ni* indirect passive ungrammatical sentences (e.g. the passivized one (71c)) was not differentiated from its grammatical counterparts by any NNS group. Thus, in all, the *ni* direct passive

was judged best both for grammatical and ungrammatical sentences, while the *ni yotte* passive and the *ni* indirect passive presented different kinds of judgment problems.

The *ni* direct passive was expected to be the first type to be learned in syntactic terms due to its high input frequency and apparent similarity to the English passive. On the other hand, the *ni yotte* passive, identical with the English passive, posed some learning problems. These perhaps arose from the fact that the *ni yotte* passive is likely to be used in formal reading and writing containing objective description (Howard & Niyekawa-Howard, 1976; Jacobsen, 1992; Kuno, 1986), thus leading to insufficient exposure to it, particularly for the non-advanced learners. The difficulty with the *ni* indirect passive presumably derived from its unique syntactic structure drastically different from that of the English passive.

Third, a close investigation of the subjects' judgments of the ungrammatical sentences revealed the following: 1) for the *ni* direct passive, as the subjects' proficiency levels increased, the ungrammatical sentences (e.g., (69b)) in which θ-role suppression did not take place were rejected all the more strongly; 2) for the *ni yotte* passive only the highly advanced group rejected both types of ungrammatical sentences where either case absorption or θ-role suppression had not occurred ((70b) for the former and (70c) for the latter) ; and 3) for the *ni* indirect passive the unpassivized sentences (e.g., (71b)) were correctly rejected by the highly advanced group and, to a lesser extent, by the low advanced group. However, the passivized counterparts (e.g., (71c)) were not rejected by any NNS group.

Since the highly advanced and the low advanced groups exhibited different judgment patterns, we discuss their results separately. (The intermediate group never

made successful ungrammaticality judgments.) We turn first to the low advanced group's judgments. If we look at the types of ungrammatical sentences this group successfully rejected, we find that they were able to recognize problems with ungrammatical sentences where θ-role suppression did not take place, namely, those of the *ni* direct passive (e.g. (69b) above) and the *ni* indirect passive without passivization (e.g., (71b)). On the other hand, when θ-role suppression did take place, they did not reject such ungrammatical sentences, i.e., those of the *ni* indirect passive with passivization (e.g., (71c)). Therefore, this group seems to have focused on the presence or absence of θ-role suppression to determine whether a given passive sentence was ungrammatical or not.

Several findings in FLA research in Japanese lend support to this claim. First, Hakuta (1982) conducted an experimental study investigating the roles of case marking and word order in children's comprehension and production of active as well as passive sentences. As part of the experiment, children (from 2;3 to 6;2 of age[2]) performed an act out activity using toys, based on sentences they heard. He found that all the children except for those most advanced performed better by approximately at least 15% for the OSV passive over the SOV passive[3]—where the OSV passive indicates [agent-*ni* + patient-*ga* + verb] while the SOV passive represents [patient-*ga* + agent-*ni* + verb]. This was perhaps due to the fact that the OSV passive places the *ni*-marked NP in the sentence-initial position and can thus serve as an early indicator of the passive. (The word order strategy in which they interpret the NNV sequence as agent-patient-action irrespective of case markers attached to the two NPs was consistent with the above finding, but was not with other findings of the study. It was therefore rejected.)

Second, in part of an experiment where children at the age of 3;3 to 6;8 were told to imitate passive sentences given orally, i.e., perform an elicitation imitation task, Sano (1977, cited in Clancy, 1985) found that they often supplied *ni* if it was omitted from the model sentence or substituted it for some other particle, suggesting that they expected *ni* to be present in passive sentences.[4] Based on these findings, Clancy (1985) suggested that a critical factor in learning the Japanese passive may be the recognition of the *ni*-marked NP as indicating the agent in passive sentences.

In a more recent study Fox & Grodzinsky (1998) shed some insight on the strategy by which the lower advanced group may have operated in making grammaticality judgments. They addressed the issue of children's (about 4 years old) asymmetrical performance on comprehension of the English passive: namely, that children fail to correctly comprehend passive sentences involving 'nonactional' verbs while they are capable of understanding those containing 'actional' verbs. In their experiment, children (3;6 to 5;5 of age) heard stories and then were asked to judge the truthfulness of statements about them such as 'the rock star is being chased by the koala bear'. The statements included non-truncated passive sentences with 'actional' and 'nonactional' verbs as well as truncated passive sentences with 'nonactional' verbs. (The non-truncated and truncated passive refers to a passive with and without the by-phrase, respectively.) They found, as echoed in the literature, that children were able to tell whether the statement was true or false when it was given in non-truncated passive sentences with 'actional' verbs, but failed to do so when the statement was given in non-truncated passive sentences with 'non-actional' verbs such as 'the boy is seen by the

horse'. However, they were capable of telling the truthfulness of the statement given in truncated passive sentences with 'nonactional' verbs such as 'the bear is seen'.

Based on these findings, Fox & Grodzinsky (1998) proposed that these children performed poorly on non-truncated (i.e., with the by-phrase) passive sentences with 'nonactional' verbs because they had not acquired the mechanism to transmit the suppressed external θ-role to the by-phrase.[5] In performing the task, these children did not ignore the by-phrase, incomprehensible to them, and interpret the entire sentence by relying on the passive subject and verb. They instead often explicitly commented that they did not know what the test statement meant. Thus it indicates that the processing of the by-phrase plays an important role in comprehending the English passive. (The operations of external θ-role suppression and transmission to the *ni* phrase also apply to Japanese passives. See Marantz, 1984; Sano, Endo, & Yamakoshi, 2001; Washio, 1989/1990.)

All these above findings in FLA research clearly emphasize that the *ni*/by phrase in passives serves a critical role in processing passive sentences. Along the lines of Fox & Grodzinsky (1998), the low advanced group's grammaticality judgment strategy could be interpreted as follows: the lack of the θ-role transmitted *ni* phrase served to determine the ungrammaticality of the *ni* direct and indirect passive sentences. There is also evidence in the present study suggesting that the presence or absence of the θ-role transmitted *ni* phrase plays an important role in NS grammaticality judgment processes. Namely, the NS control group judged the ungrammatical *ni yotte* passive sentences lacking the θ-role transmitted *ni yotte* phrase significantly worse than the other ones

without case absorption (but with the *ni yotte* phrase): a mean judgment score of.-1.90 versus -1.34; $F(1, 30) = 10.634$, $p = .003$).

As for their judgments of the *ni yotte* passive, the finding that the low advanced group did not demonstrate any significant judgment difference between grammatical and ungrammatical sentences with the mean judgment scores all clustering around zero (i.e., .17 for the grammatical and .24/.17 for the ungrammatical) strongly suggests that they had not learned the *ni yotte* passive at the time of data collection. Perhaps the morphological difference between *ni* and *ni yotte* made it very difficult for them to recognize the latter as an external θ-role assigner/transmitter.

Next, we examine the highly advanced group's judgments. The subjects of this group successfully rejected all but the passivized *ni* indirect passive sentences such as (71c) above. (Indeed, this was one of the two types out of all the syntactic and semantic sentences under investigation where they showed a clear divergence from the NS control group.) Judging from their highly successful judgment performances in the syntactic area, it is reasonable to conclude that they had known passivization operations in Japanese. But why did they fail to reject the ungrammatical passivized *ni* indirect passive sentences (while accepting the grammatical unpassivized ones)?

In order to consider this question, let us first review the structures of the *ni* direct and the *ni* indirect passives. Note the following examples:

(72) a. the *ni* direct passive (= (1b)):
John-ga sensee-ni sikar-are-ta.
-NOM teacher-by scold-Pass-Pst
'John was affected by being scolded by the teacher'

b. the *ni* indirect passive (= (2a)):

John-ga	sensee-ni	kodomo-o	sikar-are-ta
-NOM	teacher-by	child-ACC	scold-Pass-Pst

'John was affected by the teacher scolding his child'

Hoshi (1994b) characterized the passive verb *rare* of the *ni* direct passive as [+ Experiencer, + Passivization] whereas that of the *ni* indirect passive as [+ Experiencer, - Passivization]. The former type of *rare* not only triggers Passivization in the lower clause (where the internal argument of an embedded verb is posited as PRO), but also assigns its external Experiencer θ-role to the passive subject; the latter type does not passivize, but assigns its external θ-role to the passive subject.

Now notice that, as far as the above characterization of *rare* of the *ni* direct passive is concerned, nothing theoretically intrinsic prevents an NP of non-empty category from appearing as the object of the embedded verb. This situation in effect yields a passivized *ni* indirect passive.[6] Such structural representation of the *ni* indirect passive is given below together with that of the *ni* direct passive:

(73)

a. the *ni* indirect passive: $[_{IP}$ John $[_{VP}$ kodomo$_i$ sensee-ni t_i sikar] are ta]]

b. the *ni* direct passive: $[_{IP}$ John$_i$ $[_{VP}$ PRO$_i$ sensee-ni t_i sikar] are ta]] (= (71a))

(The case marking of (73a) above is considered shortly.) Notice that the only structural difference between (73a) and (73b) is that the lower-clause subject position of (73b) is filled with PRO, while that of (73a) contains *kodomo* 'child'. In other words, there is no essential structural difference between these two representations. If the internal argument

of the lower verb, *sikaru* 'scold', is phonetically unrealized, the *ni* direct passive sentence (73b) results, whereas if it is phonetically realized, the *ni* indirect passive sentence (73a) obtains. Given that the *ni* direct passive is learned earlier than the *ni* indirect passive, it would be highly plausible that learners of Japanese attempt, at least initially, to extend their analysis of the *ni* direct passive to that of the *ni* indirect passive when learning the latter. (And this learning strategy appears to work effectively as described above.) That is to say, they came to hold the view that the *ni* indirect passive involves passivization just like the *ni* direct passive. There are, in fact, analyses of the *ni* indirect passive in which this passive takes on passsivization in its lower clause (see Marantz, 1984; Washio, 1989/1990). (See also Hoshi, 1994a for discussion of the relative merits of Hoshi's, 1994a and Washio's, 1989/1990 analyses of Japanese passives.)

If this claim turns out to be on target, the following consequence follows in the analysis of the *ni* indirect passive: the subjects of the highly advanced group came to analyze that accusative case absorption is optional in the *ni* indirect passive. This is so because when accusative case absorption applies to the *ni* indirect passive, we obtain (74a) below, whereas when it does not, we alternatively get ((72b) repeated here as (74b) with word order modification for ease of comparison):

(74)	a.	*John-wa(/-ga)	kodomo-ga	sensee-ni	sikar-are-ta
	b.	John-ga	kodomo-o	sensee-ni	sikar-are-ta

As noted above, highly advanced subjects accepted the *ni* indirect passive sentences such as (74b) and, critically, did not reject ones like (74a). That is, their IL grammar seems to accommodate both types of the *ni* indirect passive. Such grammar is possible if it dose

not take accusative case absorption as obligatory (under the claim that they analyzed the *ni* indirect passive as involving passivization). If they analyzed the *ni* indirect passive along these lines, this may be one potential area for fossilization, or it will be very difficult to eradicate this faulty analysis since it seems that no input readily available to them allows them to disconfirm the idea of accusative case absorption being optional.

5.4. Non-native speakers' judgments of perfective versus non-perfective readings

Example sentences of both *ta*- and *iru*-marked *ni* direct and *ni yotte* passives are provided in (75) and (76) below. Sentences in (75) illustrate the *ta*-marked versions; i.e., (75a) is the *ni* direct passive with a past reading, (75b) is the *ni* direct passive with a perfective reading, (75c) is the *ni yotte* passive with a past reading, and (75d) is the *ni yotte* passive with a perfective reading (recall that only the first type, viz., the *ni* direct passive with a non-perfective reading (75a), is ungrammatical, while the others are grammatical):

(75)

a. (= (41b))
   *'Hamlet'-wa Shakespeare-ni kak-are-ta
   'Hamlet'-TOP Shakespeare-by write-Pass-Pst
   'Hamlet was written by Shakespeare'

b. (= (42b))
   kimitu-syorui-ga tekikoku no supai-ni nusum-are-ta
   secrest documents-NOM spy from an enemy country-by steal-Pass-Perf
   'secret documents are under the state affected by having been stolen by a spy from an enemy country'

c. (= (41a))
   'Hamlet'-wa Shakespeare-ni yotte kak-are-ta
   'Hamlet'-TOP Shakespeare-by write-Pass-Pst
   'Hamlet was written by Shakespeare'

d. (= (42a))

kimitu-syorui-ga	tekikoku no supai-ni yotte	nusum-are-ta
secrest documents-NOM	spy from an enemy country-by	steal-Pass-Perf

'secret documents have been stolen by a spy from an enemy country'

Similarly, sentences in (76) exemplify the *iru*-marked versions; viz., (76a) is the *ni* direct passive with a progressive reading, (76b) is the *ni* direct passive with a perfective reading, (76c) is the *ni yotte* passive with a progressive reading, and (76d) is the *ni yotte* passive with a perfective reading (recall that only the first type, i.e., the *ni* direct passive with a non-perfective reading (76a), is ungrammatical, while the others are grammatical):

(76)

a. (= (39b))

*atarasii konpyuutaa no puroguramu-ga	John-ni	tukur-are-te iru
new computer program-NOM	-by	make-Pass-Prog-Pres

'a new computer program is being made by John'

b. (= (40b))

intaanetto-wa	sekai-zyuu no hito-bito-ni	tukaw-are-te iru
Internet-NOM	all over the world people-by	use-Pass-Perf-Pres

'Internet is under the state affected by having been used by people all over the world'

c. (= (39a))

atarasii konpyuutaa no puroguramu-ga	John-ni yotte	tukur-are-te iru
new computer program-NOM	-by	make-Pass-Prog-Pres

'a new computer program is being made by John'

d. (= (40a))

intaanetto-wa	sekai-zyuu no hito-bito-ni yotte	tukaw-are-te iru
Internet-NOM	all over the world people-by	use-Pass-Perf-Pres

'Internet has been used by people all over the world'

Although the highly advanced group on the whole did not reject outright the *ni* direct passive with an inanimate subject carrying a non-perfective reading (exemplified by (75a) and (76a) above) as ungrammatical, the present study found evidence that subjects of this group had the knowledge that the *ni* direct passive is not compatible with a non-perfective reading by virtue of their differential judgments of it from the *ni* direct

passive with a perfective reading ((75b) and (76b)). The low advanced group also evidenced incipient knowledge of this property of the *ta*-marked, but not the *iru*-marked, *ni* direct passive, namely, this group made a weak differential judgment between (75a) and (75b), but not between (76a) and (76b). The intermediate group did not exhibit any differential judgments of them.

This finding thus has not confirmed the second part of Prediction 5 which stated that the *ni* direct passive will not be judged as ungrammatical when read as a non-perfective. It was hypothesized that since negative input indicating the ungrammaticality of this type of *ni* direct passive perhaps has not been readily available to them in a systematic manner such as in language instruction and daily language use, the subjects of the present study have not come to know this aspect of the *ni* direct passive.

If negative input had been indeed unavailable to them, this finding offers strong evidence that those subjects who based their judgments on the perfective versus non-perfective distinction had acquired the knowledge that the *ni* direct passive requires a θ-subject. This is because with learning-promoting input unavailable, they perhaps deduced the ungrammaticality of the *ni* direct passive with a non-perfective reading from the θ-subject status requirement on the *ni* direct passive along the following lines: the description of a given situation in a non-perfective (i.e., past or progressive) aspect would not allow a reading in which an inanimate subject of the *ni* direct passive is 'affected' as a result of the process or event described in that situation (while such a reading is readily available in a perfective description). With an 'affective' effect required on a *ni* direct passive subject, the former description is not permissible. It would be fruitful to further investigate more precisely the nature of the knowledge of the perfective versus non-

perfective distinction in the *ni* direct passive which English-speaking learners have demonstrated to be capable of learning (see below for a more directed future research suggestion).

Another noteworthy finding (which is presupposed in the first one) is that these two groups of advanced subjects knew that the *ni* direct passive may take an inanimate subject notwithstanding the predominant use of an animate subject in this type of passive. They in fact accepted as grammatical the inanimate-subject *ni* direct passive with a perfective reading to the same extent as they did the one with an animate subject used for the syntactic analysis ($F(2, 48) = .129, p = .782$ for the highly advanced group; ($F(2, 70) = .957, p = .389$ for the low advanced group). Perhaps the fact that an inanimate subject can freely appear in the English passive facilitated their learning of this aspect of the *ni* direct passive.

In contrast to the differential acceptability of the *ni* direct passive between perfective and non-perfective readings, the lack of such a distinction in the *ni yotte* passive was also observed in the highly advanced group (see (75c)-(75d) and (76c)-(76d) for the absence of grammaticality contrast). The subjects of this group rated the *ni yotte* passive with perfective and non-perfective readings without much difference. This suggests their knowledge that the *ni yotte* passive does not impose such restriction on the subject status as the *ni* direct passive does. The low advanced and the intermediate groups generally rated *ni yotte* passive sentences very low elsewhere, suggesting the lack of syntactic knowledge of this type of passive.

Therefore, in sum, the findings regarding the contrastive grammaticality judgments between the two types of passives made by the highly advanced group

strongly indicate that these subjects possessed the knowledge that the subject status differs between the *ni* direct and the *ni yotte* passive, i.e., the former takes a θ-passive subject whereas the latter a non-θ one. Neither the low advanced nor the intermediate group demonstrated evidence for such knowledge (although the former group showed the presence of incipient knowledge of the perfective versus non-perfective reading contrast in the *ta*-marked *ni* direct passive).

There is an additional recurrent pattern observed in the present study deserving consideration. There were cases where *ta*-marked passive sentences, *ni* direct or *ni yotte*, were judged in accord with the theory predictions by one group which in turn failed to do so with their *iru*-marked counterparts. In other words, there were instances implying that certain *ta*-marked passive sentences were learned earlier than their *iru*-marked counterparts. (The *ta* form may mark either a perfective or simple past reading whereas the *iru* form either a perfective or progressive reading.) Such cases include: 1) the low advanced group judged the *ta*-marked *ni* direct passive with a past reading (e.g., (75a)) differently from the one with a perfective reading (e.g., (75b)), but failed to differentiate its *iru*-marked counterparts (e.g., (76a) and (76b)); and 2) the highly advanced group's rating of the *ta*-marked *ni yotte* passive with a perfective reading (e.g. (75d)) was as high as that of the *ni* direct passive counterpart (e.g. (75b)) whereas their judgment of the *iru*-marked *ni yotte* passive version (e.g., (76d)) was not as high as that of its *ni* direct counterpart (e.g., (76b)). In other words, assuming that the *ni* direct passive was learned earlier than the *ni yotte* passive, the highly advanced group approximated the judgment of the *ta*-marked *ni yotte* passive with a perfective reading (e.g., (75d)) with that of its *ni*

direct passive counterpart (e.g., (75b)), but failed to do so with the *iru*-marked (*ni yotte* and *ni* direct passive) version (e.g., (76d) and (76b)).

Why was this so? To date no semantic analysis of Japanese passives provides an answer to the question of how aspectual differences between *ta* and *iru* forms may interact with the *ni* direct and the *ni yotte* passives (see Alfonso, 1980; Inoue, 1976; Jacobsen, 1992; Klaiman, 1987; Kuroda, 1979; Masuoka, 1982; Wierzbicka, 1979 for analyses of semantics of the *ni* direct passive versus the *ni yotte* passive). We may, however, locate one possible factor influencing the observed learning differences between *ta*- and *iru*-marked passives in input frequency differences in passive sentences. Specifically, perfective *ta*-marked passive sentences, either the *ni* direct passive or the *ni yotte* passive, may appear more frequently than their perfective *iru*-marked counterparts.

One factor which may be contributing to the input frequency differences is the verb-type requirement on the perfective reading of the *iru* form. Although the precise conditions necessary for the perfective *iru* form to be met is still debated (see Inoue, 1976; Jacobsen, 1992; Okuda, 1978a; 1978b; Shirai, 1998; 2000; Yoshimoto, 2000), there is general agreement that the *iru* form will be assigned a perfective reading when used with achievement and accomplishment verbs (Jacobsen, 1992). Stated differently, it will not be read as a perfective with activity verbs, in contrast to the *ta* form whose perfective reading is not restricted in any sense.

Hence, the occurrence of perfective *iru*-marked passives, both *ni* direct and *ni yotte*, is disfavored over the *ta*-marked counterparts since a limited range of verbs is available for an *iru* perfective reading, while any verb (except for stative verbs) is available for a *ta* perfective reading. That is to say, passive sentences encountered by

advanced subjects were more likely marked with the perfective *ta* form than with the perfective *iru* form. This skewed input frequency difference is perhaps partially responsible for the findings that the low advanced group exhibited a weak tendency for judgment differentiation in the *ta*-marked *ni* direct passive between perfective and past readings, but did not demonstrate it in the *iru*-marked *ni* direct passive version; and that the highly advanced group accepted the *ta*-marked *ni yotte* passive with a perfective reading as strongly as its *ni* passive counterpart, but did not do so with the perfective *iru*-marked version. This apparent learning difference between *ta*- and *iru*-marked (*ni* direct and *ni yotte*) passives merits further research.

5.5. Non-native speakers' judgments of adversative readings

Examples of *ni*- and *ni yotte*-marked direct and indirect passive sentences with adversative as well as non-adversative readings are given in (77) and (78) below. Sentences in (77) illustrate the indirect passive versions, i.e., (77a) is the *ni* indirect passive carrying an adversative reading, (77b) carries a non-adversative reading (thus, ungrammatical), and (77c) is the *ni yotte* indirect passive with an adversative reading (thus, ungrammatical):

(77) (= (37))
a. John-ga warui toki-ni tomodati-ni ko-rare-ta
-NOM at an inconvenient time friend-by come-Pass-Pst
'John was adversely affected by his friend visiting him at an inconvenient time'

b. *John-ga ii toki-ni tomodati-ni ko-rare-ta
at a convenient time
'*John was adversely affected by his friend visiting him at a convenient time'
(Kuroda 1979, p. 314 & p. 317)

c. (= (43b))
*John-ga warui toki-ni tomodai-ni yotte ko-rare-ta
-by
'John was adversely affected by his friend visiting him at an inconvenient time'

Sentences in (78) exemplify the direct passive versions, viz., (78a) is the *ni* direct passive carrying an adversative reading, (78b) carries a non-adversative reading (thus, ungrammatical), and (78c) is the *ni yotte* direct passive with an adversative reading (thus, ungrammatical):

(78)
a. (= (38a))
Jane-ga mukasi no kare-ni ni-zikan mo mat-arete komat-ta
-NOM ex-boyfriend-by as many as 2 hours wait-Pass annoy-Pst
'Jane was annoyed by being adversely affected by having been waited for by her ex-boyfriend for as many as two hours'

b. (= (38b))
* Jane-ga mukasi no kare-ni ni-zikan mo mat-arete uresikat-ta
happy-Pst
'*Jane was happy by being adversely affected by having been waited for by her ex-boyfriend for as many as two hours'

c. (= (43d))
*Jane-ga mukasi no kare-ni yotte ni-zikan mo mat-arete komat-ta
-by
'Jane was annoyed by being adversely affected by having been waited for by her ex-boyfriend for as many as two hours'

In examining the subjects' grammaticality judgments of the *ni* direct and the *ni* indirect passives carrying adversative and non-adversative readings, as well as their acceptability of the *ni yotte* direct and indirect passives with an adversative reading, it has been found that the highly advanced group observed both that the *ni* (direct and indirect) passive carries an adversative reading (by making differential judgments between (78a)/(77a) and (78b)/(77b) above), and that the *ni yotte* passive is not compatible with

such a reading (see (77c)). There was one exception to this general finding, i.e., that the *ni yotte* direct passive with an adversative reading (e.g., (78c)) was not rejected outright (see below for a possible reason). The subjects of the low advanced group showed evidence of knowledge that the *ni* direct passive tends to carry an adversative reading (by making differential judgments between (78a) and (78b)), but they failed to demonstrate the other relevant distinctions in judgment. This perhaps does not indicate that they had come to have the knowledge that the *ni* direct passive carries an adversative reading while the *ni* indirect passive does not, but simply suggests that they did not have sufficient syntactic and semantic knowledge of the latter. In the similar vein, their failure to reject the *ni yotte*-marked (direct and indirect) passive with an adversative reading merely indicates that they had learned very little (at best) about the properties of the *ni yotte* marking. The intermediate group did not indicate differential judgments of any kind.

It is noteworthy that the highly advanced group rated the *ni* indirect passive with an adversative reading as high as it did the *ni* direct passive with such reading. This is so because in the syntactic analyses (where the *ni* passives did not carry enhanced adversative readings), the subjects of this group judged the *ni* indirect passive significantly lower than the *ni* direct one. Thus, a pronounced adversative reading in the *ni* indirect passive served to promote their rating of it, suggesting that they had established a clear association between the *ni* indirect passive and an adversative reading just as NSs do (see Spees, 1992 for NSs' rating of adversity in the *ni* indirect and the *ni* direct passives).

This evinced connection between the *ni* indirect passive and an adversative reading sheds some light on the question of why the subjects of the highly advanced group did not reject more clearly the *ni yotte* direct passive with an adversative reading. Namely, why is it that they did not rate *ni yotte* direct passive sentences with an adversative reading as ungrammatical strongly enough so that there would have been a significant judgment difference from grammatical *ni yotte* passive sentences without an adversative reading?

One possible reason for the lack of the highly advanced group's clear rejection seems to have to do with the nature of the verb used in the test sentences (79) below ((79a) exemplifies the *ni yotte* direct passive with an adversative reading, and (79b) the *ni* direct passive with a non-adversative reading):

(79)

a. (= (43d))

*Jane-ga	mukasi no kare-ni yotte	ni-zikan mo	mat-arete	komat-ta
-NOM	ex-boyfriend-by	as many as 2 hours	wait-Pass	annoy-Pst

'Jane was annoyed by being adversely affected by having been waited for by her ex-boyfriend for as many as two hours'

b. (= (38b))

*Jane-ga	mukasi no kare-ni	ni-zikan mo	mat-arete	uresikat-ta
				happy-Pst

'*Jane was glad by being adversely affected by having been waited for by her ex-boyfriend for as many as two hours'

Clearly, the verb *matu* 'wait' whose passivized form is used in sentence (79a) does not intrinsically carry a negative connotation. Thus, those subjects of the highly advanced group who failed to rate it as ungrammatical may have felt that the passivized verb *mat-are-te* 'being waited' does not carry a negative connotation. The presence of the *ni yotte* phrase in it is consistent with this interpretation, possibly even enforcing it. Thus, they

might have felt that the passive subordinate clause was an impersonal, report-like description of the situation and accepted it. In this view the overall negative connotation in (79a), derives from the matrix verb *komat-ta* 'was annoyed', but not from the passivized verb *mat-are-te* 'having been waited'. If so, the problem with their judgments resides in their failure to associate the passivized verb whose original form carries a neutral connotation with an adversative reading just as NSs may do (Spees, 1992).

By contrast, the highly advanced group successfully rejected the *ni* direct passive with a non-adversative reading (79b) above (with a mean judgment score of -.76). That is to say, they derived a negative reading from its passive subordinate clause, which is incompatible with the overall positive connotation expressed by the matrix verb *uresikatta* 'was glad'. Why did they read the negative connotation in the passive subordinate clause of (79b) but not in that of (79a)? This is perhaps because the former is marked by *ni* while the latter by *ni yotte*. Their remarkably good metalinguistic performances on perfective versus non-perfective reading contrasts and verb-induced viewpoint differences strongly suggest that they knew that there is an essential semantic difference indicated by *ni* and *ni yotte* markings in passive sentences.

It has been claimed above that the *ni* phrase served a critical role for subjects of the low advanced group to determine the ungrammatical status of passive sentences in syntactic terms. It is not unwarranted to go a step further and hypothesize that the *ni* phrase also plays an important role in interpretation of the semantics of passive sentences in that the *ni* marking, not the passive verb *rare*, is associated with an adversative reading. In consideration of the possible role either a verb connotation or the *ni* marking, or both, may play in interpretation of the *ni* direct passive, then, an interesting question

arises as to whether learners of Japanese at such a high proficiency level as the highly advanced group would be able to read an adversative connotation in the *ni* direct passive where the *ni* phrase is missing and the passivized verb is derived from a neutral-connotation verb. If indeed the subjects of the highly advanced group relied on the *ni* marking to read an adversative connotation in the *ni* direct passive, they may not be able to read it in a *ni* direct passive sentence where the *ni* marking not only is unavailable, but its passivized verb in itself does not connote negativity, i.e., the passive verb *rare* is the only cue for an adversative reading. This path of inquiry may well illuminate further the remarkably good knowledge of Japanese passives demonstrated by the highly advanced group. (Recall also that Tanaka (1993) and Watabe et al. (1991) found that English-speaking learners of Japanese often failed to employ the *ni* direct passive in production tasks to express an unfavorable situation for a referent of the passive subject where a NS of Japanese would make use of the *ni* direct passive.)

5.6. Native speaker control group's non-rejection of the *ni yotte* indirect passive with a transitive verb carrying an adversative reading

It was found that the subjects of the NS control group made a judgment distinction between *ni* and *ni yotte* indirect passive sentences with transitive verbs carrying adversative readings by giving a significant judgment difference between them. Examples of both types are given below; (80a) is the *ni* indirect passive (grammatical), and (80b) is the *ni yotte* indirect passive (ungrammatical):

(80)

a.

huyu no samui hi no asa,	Mary-wa	Jane-ni	sinsitu no mado-o	ake-rare-ta
in the cold winter morning	-NOM	-by	bedroom window-ACC	open-Pass-Pst

b.

*huyu no samui hi no asa,	Mary-wa	Jane-ni yotte -by	sinsitu no mado-o	ake-rare-ta

'Mary was adversely affected by Jane opening the bedroom window in the cold winter morning'

However, contrary to the theory prediction, they barely succeeded in rating the latter type (e.g., (80b)) as ungrammatical (with a mean judgment score of .26)[7], whereas they accepted the former type (e.g., (80a)) clearly (with a mean judgment score of 1.50) as predicted. Thus the question arises as to why the NS control group subjects did not reject the *ni yotte* indirect passive sentences with transitive verbs?

In addressing this question, first, consider the following *ni yotte* passive sentence:

(81)	John-ga	kokumu-syoo ni yotte	ryoken-o	toriage-rare-ta
	-NOM	State Department by	passport-ACC	take away-Pass-Pst

'John had his passport revoked by the State Department' (Kuroda, 1979, p. 339)

Kuroda (1979) gave *ni yotte* passive sentences like (81) above as an example of a potential problem with his claim that the *ni* passive versus the *ni yotte* passive classification is an overarching dichotomous characterization of Japanese passives. Sentence (81) is syntactically an indirect passive because it contains an accusative case-marked NP and a passive morpheme *rare* along with a so called extra NP as the passive subject. However, its agentive NP *kokumu-syoo* 'the State Department' is marked with *ni yotte* not *ni*. Given that the *ni yotte* indirect passive cannot be a mere variant of the *ni* indirect passive, how is a *ni yotte* indirect passive such as (81) possibly derived since there does not seem to be any active counterpart of (81) available?

Following Shibatani's (1990) proposal that Japanese underlyingly has a very wide range of double/multiple accusative structures as in Korean (Yoon, 1990, cited in Shibatani, 1990); and further hypothesizing that "predicates in Japanese can take an "additional" object/"affected" argument, typically a theme or patient ...." (Hoshi 1999, p. 219), Hoshi (1999) proposed the underlying structure of sentence (81) as below:

(82) *kokumu-syoo-ga John-(o) ryoken-(o) toriage-ta
Sate Dept.-NOM -(ACC) passport-(ACC) take away-Pst
'the State Department revoked John's passport'

(Note that sentences such as (82) never surface due to the Double-o Constraint[8], indicated by *-marking.) Now, sentence (81) is derived by John being moved to the subject position in the *ni yotte* passivization process, i.e., NP movement[9], and by *kokumu-syoo* 'the State Department' being *ni yotte*-marked due to θ-role suppression. Hence, given Hoshi's (1999) movement analysis of the *ni yotte* (indirect) passive like (81), the syntactic difference between the *ni* passive and the *ni yotte* passive is maintained.

Yet there seems to be some semantic consequence in this analysis. Namely, the semantic difference between the *ni* passive 'affectee' subject and the *ni yotte* passive non-'affectee' one seems to be weakened. This is so because the subject of the *ni* indirect passive is required to be 'affectee' by the passive morpheme *rare* whereas in the proposed analysis the subject of the *ni yotte* indirect passive is to be interpreted as an "affected" argument.[10]

The NS control group subjects' failure to clearly reject the *ni yotte* indirect passive like (80b) as ungrammatical may be partly attributable to this reduced semantic difference between the *ni yotte* passive and the *ni* indirect passive with a transitive verb.

Specifically, if they did not read the overtone of (80b) as strongly adversative (invoked by the passive verb *rare*), they may not have rejected it as an instance of the *ni yotte* indirect passive, but instead perceived its overall weak adversative connotation and the hint of affectedness given by a *ni yotte* passive subject's "affected" role as compatible. On the other hand, if they felt (80b) to be exceedingly adversative, they may have rejected it on the basis of the general incompatibility between the *ni yotte* indirect passive and an adversative reading.

Interestingly enough, in their judgment of the *ni yotte* indirect passive and the *ni* indirect passive with an intransitive verb carrying an adversative reading, NS control group subjects clearly rejected the former (with a mean judgment score of -1.63) and accepted the latter (at a mean judgment score of 1.23). Along the lines considered above, this was so because intransitive verbs would not allow an "additional" object/"affected" argument even underlyingly and thus the clear semantic division between the *ni* passive and the *ni yotte* passive was intact. In other words, the alternative reading of the (*ni*) indirect passive as the *ni yotte* passive was not available.

5.7. Judgments of verb-induced viewpoint differences

There were two types of verb-induced viewpoint differences resulting in the grammaticality distinction between the *ni* direct and the *ni yotte* passive: i.e., 1) the Japanese native versus Sino-Japanese verb contrast and 2) the affective and unaccusative verb contrast. Example sentences for the first type are provided in (83) below, i.e., (83a) is the *ni* direct passive with a Japanese native verb, (83b) is the *ni yotte* passive with a

Sino-Japanese verb, and (83c) is the *ni yotte* passive with a Japanese native verb (thus ungrammatical):

(83) a. (= (44a))
Bill-wa kawaii musuko-ni koros-are-ta
-TOP beloved son-by kill-Pass-Pst
'Bill was affected by being killed by his own beloved son'

b. (= (44c))
Bill-wa CIA-ni yotte satugai-s-are-ta
-TOP the CIA-by murder-Pass-Pst
'Bill was murdered by the CIA'

c. (= (44b)
*Bill-wa kawaii musuko-ni yotte koros-are-ta
-TOP beloved son-by kill-Pass-Pst
'Bill was killed by his own beloved son'

Not only the highly advanced group but also the low advanced group judged as grammatical both the *ni* direct passive with a Japanese native verb (e.g., (83a)) characterizing a personal viewpoint and the *ni yotte* passive with a Sino-Japanese one (e.g., (83b)) signalizing an objective standpoint. Furthermore, both groups rejected the *ni yotte* passive with a Japanese native verb (e.g., (83c)), indicating that they knew that the *ni yotte* passive is suitable for an objective description but not for a personal one. The intermediate group failed to make any distinction set forth by the different verb types.

This is the only distinction between the *ni* direct and the *ni yotte* passive that the low advanced group successfully made. This group, unlike the highly advanced group, failed to give differential judgments to these two types of passives in the other semantic areas investigated. As noted earlier, their failure to demonstrate such contrasts was, at least, partly due to the slight syntactic knowledge the subjects of this group had attained of the *ni yotte* passive. Why then were they successful in making a grammaticality

distinction between *ni yotte* passive sentences with a Sino-Japanese verb and those with a native Japanese verb? Namely, why were they able to accept the former and reject the latter despite their apparent lack of syntactic knowledge of the *ni yotte* passive?

As held in the Predictions, this verb type-related distinction between the *ni* direct and the *ni yotte* passives is often singled out and characterized as being a stylistic difference between the two; namely, the *ni yotte* passive is preferred to the *ni* direct passive in formal writing such as academic reporting (Howard & Niyekawa-Howard, 1976; Jacobsen, 1992). Perhaps this is the type of knowledge developed by the low advanced group, which does not touch on the crucial semantic property of the *ni yotte* passive as having a non-θ-subject.

Essentially, the subjects of this group may have developed a lexicalized knowledge of the *ni yotte* marking, such that a *ni yotte* marking in Japanese passives is associated with formal writing effected by Sino-Japanese verbs, but is incompatible with a non-formal situation set forth by Japanese native verbs. This hypothesis then suggests that they analyzed a *ni yotte* marking as a mere lexical variant of a *ni* marking of the *ni* direct passive, considering that they evinced (syntactic) knowledge of the *ni* direct passive, but not that of the *ni yotte* passive: More specifically, they may have perceived this type of *ni yotte* passive as a *ni yotte*-marked direct passive without conceiving of the full semantic consequences for matching the *ni yotte* marking with the *ni* direct passive. Consequently, as a variant of the *ni* direct passive, they were able to make differential judgments of these *ni yotte* passive sentences.

Next, example sentences for the second type of verb-induced viewpoint differences are given in (84) below: viz., (84a) is the *ni* direct passive with an affective verb, and (84b) is the *ni yotte* passive with an affective verb (thus ungrammatical):

(84)

a. (= (45a))

Mary to hanasi-te iru	tokoro-o, Bill-ga	gaaruhurendo-ni	kik-are-ta
talking to Mary	as -NOM	his girlfriend-by	hear-Pass-Pst

'Bill was affected by being heard by his girlfriend as he was talking to Mary'

b. (=(45b))

*Mary to hanasi-te iru	tokoro-o, Bill-ga	gaaruhurendo-ni yotte	kik-are-ta
		-by	

In judging these sentences, the highly advanced group made a differential judgment between the two by accepting the former and rejecting the latter, whereas the low advanced and intermediate groups did not demonstrate such contrast. Surprisingly, however, in rating the *ni* direct passive sentences with affective verbs such as (84a) above, NS control subjects gave them either a very low grammaticality or ungrammaticality status, contrary to Kuroda's (1979) theory according to which these sentences are rendered grammatical.

In consideration of this unexpected assessment given by the NS control group, see the following sentences (85) (adopted from Kuroda, 1979, p. 314):

(85)

a.

Bill-ga	nozokimi site iru	tokoro-o	John-ni	mi-rare-ta
-NOM	peeping (into a room)	as	-by	see-Pass-Pst

'Bill was affected by being seen by John as he was peeping (into a room)'

b.

A!	John-ni	mi-rare-ta
My God,	-by	see-Pass-Pst

'My God, I've been seen by John'

Kuroda (1979) delved in great detail into how the subject of a *ni* direct passive with an affective verb would feel psychologically affected by the event described by the passive sentence. In doing so he started out with the *ni* direct passive sentence (85b) stated from the first person's viewpoint, since the psychological experience depicted in this type of passive sentence tends to be highly personal. In (85b) it conveys a kind of self-shame caused by "being-seen-by-the-Other" (Kuroda, 1979, p. 314) because one has been secretly peeping at something forbidden. Then he moved on to a more general situation like (85a) referring to a third person's experience. Because of this elaborated transition in discoursal viewpoint from first to third person, the reader of Kuroda's paper perhaps is able to adjust his or her viewpoint to the third person's in sentence (85a) and perceive it as a quasi-personal experience invoking highly personal psychological affectivity.

In the present study, on the other hand, (85a) above was merely one of the 84 test sentences to judge; the subjects were presented with it plainly without any accompanying discourse information with which they could establish a close identity with the passive subject. (See also endnote 4 in this chapter for related consideration.) This possibly led to a conflict in the reading: namely, on the one hand, it expressed a very personal psychological state (conveyed by the passivized affective verb *mir-are-ta* 'was seen'), and, on the other, it appeared to describe a personally detached situation where the judge of the sentence had no identity or relation to the passive subject.

This view receives some support from the finding that linguistically sophisticated NSs judged these sentences better than linguistically naïve NSs: the former group judged them with mean judgment scores of .71 and 1.19, whereas the latter rated them with .58 and -.42, respectively. This was probably because the linguistically trained group was

more readily able to adjust their viewpoint to a different perspective due to their practice and ability to analyze sentences in various ways.[11]

Furthermore, it may be explained in a similar line why the highly advanced group performed better on average in judging these *ni* direct passive sentences with affective verbs than the linguistically naïve NS group (the mean judgment scores of .864 versus .08065, respectively). If the former group subjects lacked the knowledge that such a subtle psychological connotation may be invoked by passivized affective verbs,[12] then, they perhaps were blind or insensitive to the potential conflict in viewpoint the latter group may have experienced. This may have led the highly advanced group to construe the *ni* direct passive sentences with affective verbs as typical *ni* direct passive sentences (in which a deep, highly personal psychological effect is not generally read), consequently resulting in their superficially better performance without suffering the viewpoint conflict described above. (See the following for discussions of the role of discoursal information on the use of passives: Watabe, Brown, & Ueta, 1991 for SLA; Otsu, 1999; Suzuki, 1998 for FLA; and Ferreira, 1994 for adult NSs.)

In the end, it was found that the NS control group rejected the unaccusative versions corresponding to the *ni* direct passive sentences with affective verbs such as (84a) despite Kuroda's (1979) prediction that they are grammatical. An example sentence of its unaccusative version is exemplified below:

(86)	gaaruhurendo-ni,	Bill-ga	Mary to hanasi-te iru	tokoro-ga	kikoe-ta
	his girlfriend-to	-NOM	talking to Mary	as	audible-Pst
	'Bill was audible to his girlfriend as he was talking to Mary'				

They gave mean judgment scores of -.23 and -1.39 to these unaccusative sentences. Why was this so? Indeed, a similar unexpected result was obtained in Hirakawa (1999)[13] in which she investigated whether English- and Chinese-speaking learners of Japanese have difficulty acquiring surface unaccusativity in Japanese[14] using a grammaticality judgment task (see also Hirakawa, 2001). It was surprisingly found that Japanese controls did not show the unaccusative and unergative distinction with respect to a case drop phenomenon[15]. Namely, they treated unaccusative verbs on a par with unergative ones, rejecting unaccusative as well as unergative sentences with a nominative case marker *ga* dropped. (It was expected that unergative sentences with a nominative case marker dropped would be rejected, while surface unaccusative counterparts would be accepted since its sole NP remains in the object position and thus satisfies the case marker drop conditions.) Thus both studies looking at unaccusativity in Japanese by employing a grammaticality judgment task obtained results incongruent to theory predictions. More research, both empirical and theoretical, is necessary to find out why this was the case.

CHAPTER 6

CONCLUSION

The goal of the present study has been to examine knowledge of passives that English-speaking learners of Japanese develop in order to address the question of what aspects of Japanese passives are difficult for them to learn both in syntactic and semantic areas, and why. Toward this end, based on Hoshi (1994a; 1999) and Kuroda's (1979) analysis of Japanese passives, a grammaticality judgment questionnaire was devised in which there were 62 passive-related test sentences as well as 22 distractor sentences to rate on a five-point grammaticality scale. Data were gathered both from linguistically sophisticated and naïve NSs of Japanese as well as from intermediate to low and highly advanced English-speaking learners of Japanese.

To begin with, we examined judgment data collected from ordinary (characterized as linguistically naïve) NSs of Japanese (viz. 31 subjects without linguistic training). This analysis was particularly critical to demonstrate that they indeed judged the passive test sentences according to Hoshi (1994a; 1999) and Kuroda's (1979) predictions with keen attention to their judgments of sentences differing in delicate semantic nuances. This was so because Kuroda's semantic analysis of Japanese passives hinges on highly subtle differences in closely related sentences. In this connection, judgment data were also gathered from linguistically sophisticated NSs (viz. 21 subjects with linguistic training). This additional data collection was motivated by the suspicion that there might be differences in assessing the grammaticality of passive sentences in which semantic features were manipulated, depending on whether or not NS judges had received

linguistic training. (Note that the literature has been inconclusive on the effects of linguistic training for NSs' grammaticality judgment performances.)

It was found that the linguistically naïve NS group gave grammaticality judgments of the passive sentences conforming more than 90% to the theory predictions, while the linguistically sophisticated NS group did so approximately 45% to 70% of the time depending on measurement. Therefore, the ordinary NSs gave grammaticality judgments in close conformity to Hoshi (1994a; 1999) and Kuroda's (1979) analysis of Japanese passives including passive sentences in which subtle semantic features were manipulated: Additionally, in judgment of the questionnaire sentences of the present study, these two groups behaved quite differently (see Predictions 1a and 1b). Having established the linguistically naïve NS group's very high correspondences to the theory predictions, we proceeded to investigate the knowledge English-speaking learners of Japanese had attained of the properties of Japanese passives.

In the second phase of the study, we analyzed grammaticality judgment data gathered from 20 intermediate, 36 low advanced, and 25 highly advanced English-speaking learners of Japanese to examine their syntactic and semantic knowledge of Japanese passives. First of all, the widely held view that Japanese passives are exceedingly difficult for English-speaking learners to learn received strong supportive evidence in the present study. Despite their studying Japanese for an average of 4.32 years and 70% of them majoring in Japanese-related specializations (which normally suggests their commitment to learning the language), the subjects of the intermediate group failed to demonstrate their knowledge of Japanese passives in any syntactic or semantic terms. Namely, in rating grammatical sentences of the *ni yotte*, the *ni* direct,

and the *ni* indirect passive, they did not judge any one type significantly higher than the other two; nor did they indicate any sensitivity to grammaticality contrasts reflected in the judgment of contrastive pairs of grammatical and ungrammatical passive sentences for either a syntactic or a semantic property. Their mean judgment scores of all of them stayed very close to zero.

On the other hand, the low and highly advanced groups' grammaticality judgment data provided the information to unravel how Japanese passives were represented in their knowledge and thus what aspects of passives posed learning difficulties for them, and why. First, an investigation of their syntactic knowledge of passives, particularly that of passivization, showed that the grammatical *ni* direct passive was rated significantly higher than both its *ni* indirect and *ni yotte* passive counterparts, while there was no significant difference in rating the latter two types of passives. When compared with the NS control group's judgments, the low advanced as well as the highly advanced groups approximated to it in judging the *ni* direct passive; and in rating the *ni yotte* passive, the latter group approximated to it, but the former group did not. In judging the *ni* indirect passive, in contrast, neither group approximated the NS control group. Therefore, clearly, the grammatical *ni* direct passive was rated best of all. On the other hand, there was some evidence suggesting that the grammatical *ni yotte* passive appears to have been more accurately judged than the grammatical *ni* indirect passive (see Predictions 2 and 3).

Second, in rating the syntactically ungrammatical *ni* direct passive, both the low advanced and the highly advanced groups made a clear-cut grammaticality distinction between the grammatical and ungrammatical *ni* direct passive sentences. In the case of the *ni yotte* passive, the latter group demonstrated a clear grammaticality distinction, but

the former group did not. Finally, both groups failed to reject the ungrammatical *ni* indirect passive sentences where passivization operations applied, while they successfully differentiated from the grammatical ones the other type of ungrammatical *ni* indirect sentences where passivization operations did not apply. Hence, as with the judgments of the grammatical sentences of the three types of passives, clearly, the ungrammatical *ni* direct passive was rated best of all. Although less clear, it appears, overall, that the ungrammatical *ni yotte* passive was rated more correctly as ungrammatical than the ungrammatical *ni* indirect passive (see Predictions 2 and 3).

Furthermore, a close examination of the low advanced group's judgment patterns in rating all ungrammatical sentences of the three passive types indicated that the subjects of this group had determined the ungrammaticality of them on the basis of the absence of the external θ-role transmitted *ni* phrase (see Fox & Grodzinsky, 1998; Sano, Endo, & Yamakoshi, 2001 for discussion of the role of the external θ-role transmitted phrase for processing passive sentences). This was perhaps why this group was spuriously successful in rejecting the ungrammatical *ni* indirect passive where passivization operations, particularly external θ-role suppression, did not take place, because the lack of external θ-role suppression resulted in the absence of the θ-role transmitted *ni* phrase in the *ni* indirect passive. It was also claimed in consideration of the learning difficulty with the *ni yotte* passive that the morphological difference between *ni* and *ni yotte* had made it very difficult for the subjects of this group to recognize the *ni yotte* phrase in this type of passive as a θ-role transmitted phrase.

In contrast, the subjects of the highly advanced group demonstrated very good knowledge of passivization. Their only grammaticality judgment which clearly deviated

from the NS control group was that of the ungrammatical *ni* indirect passive where passivization operations took place. In consideration of their remarkably good performances in judgment of passive sentences where passivization processes were manipulated, their failure to reject the passivized *ni* indirect passive indicated that they had analyzed the *ni* indirect passive as triggering passivization in its lower clause (see Washio, 1989/1990 for this line of analysis). This further suggested that they analyzed this type of passive as involving the optionality of accusative case absorption in its lower clause passivization. This is so because their IL grammar accommodated both (grammatical) unpassivized and (ungrammatical) passivized *ni* indirect passive sentences. Crucially, they only differ with respect to the presence or absence of an accusative *o*-marked NP in the lower clause as a result of accusative case absorption not being applied for the former and applied for the latter. If this reasoning is correct, the optionality analysis above would be highly difficult for them to relearn due to the unavailability of input contradicting such analysis.

On the whole, as summarized above, the findings of the present study show that the NNS subjects (both low and highly advanced groups) classified the three syntactic types of Japanese passives in a single class in which they are characterized as involving passivization operations. Such syntactic characterization overlaps with that of the NS subjects with respect to the *ni yotte* and the *ni* direct passives, since these two types of passives share the passivization processes as a syntactic function of their respective passive morphology *rare*: However, the NNS subjects' knowledge representation of the *ni* indirect passive departs from that held by the NS subjects who seem to have conceived of it as not triggering the passivization processes. It was hypothesized above that the

subjects of the highly advanced group had accommodated, in their IL grammar, two types of the *ni* indirect passive in which accusative case absorption either takes place or does not, by analyzing this type of passive as optionally triggering it.

This non-correspondence between the NS and the highly advanced NNS subjects' knowledge representations with respect to the *ni* indirect passive, however, does not lead to the conclusion that the latter group constructed an illicit grammar of this type of passive. Indeed, as shown in Baker et al. (1989), there are languages in which the thematic object of a passivized verb may appear in either a nominative case form or an accusative case form, that is to say, accusative case absorption either applies or does not. Such a case is illustrated below in Ukrainian (Sobin, 1985, cited in Baker et al., 1989, p. 236):

(87) a.	cerkv-a	bul-a	zbudova-n-a	v	1640 roc'i
	church-NOM/Fem	was-Fem	built-Pass-Fem	in	1640
b.	cerkv-u	bul-o	zbudova-n-o	v	1640 roc'i
	church-ACC/Fem	was-Imp	built-Pass-Imp	in	1640
	'the church was built in 1640'				

In (87a) accusative case absorption has taken place and thus *cerkv-a* 'church', the internal argument of the verb, is nominative case-marked: In (87b), on the other hand, accusative case absorption has not applied and, consequently, the thematic object of the verb retains its accusative case. Interesting in this respect is that optionality of accusative case absorption does not exist either in Japanese or English: Nevertheless, the subjects of this group appear to have entertained this line of analysis which is permissible in grammars of other languages. Thus a natural question arises as to how they arrived at such analysis. Unavailability of input data in both TL and NL of the NNS subjects strongly suggests

that they attained it learner-internally, i.e., from properties of Universal Grammar. If so, this provides an illuminating case in which adult SL learners construct a grammar on their own, one that is different from that of their TL and NL, yet which appears to be internally consistent by virtue of being driven by TL input data, a knowledge of NL, and Universal Grammar.

Turning to the investigations of their semantic knowledge of Japanese passives, of particular interest was whether or not the NNS subjects' groups observed the 'affectee' θ-subject versus non-θ-subject contrasts between the *ni* passives and the *ni yotte* passive which were brought out in various semantic conditions. First, the subjects of the highly advanced group evinced that they knew that the *ni* passive, both direct and indirect, might be read with an adversative connotation, but not with a non-adversative one. Namely, they made differential judgments of the *ni* direct as well as the *ni* indirect passive depending on its adversative and non-adversative readings. There was further evidence that they knew that there was a propensity for the *ni* indirect passive to carry an adversative connotation in that their judgments of the *ni* indirect passive improved considerably when matched with a pronounced adversative reading. No such judgment improvement occasioned in the case of the *ni* direct passive with an adversative reading (see Prediction 4). The subjects of the low advanced group made differential judgments between the two readings only in the *ni* direct passive. (It was suggested that they had not yet learned syntactic and semantic properties of the *ni* indirect passive.)

Second, in judging the *ni* direct and the *ni yotte* passive with either a perfective or a non-perfective reading, the subjects of the highly advanced group demonstrated the knowledge that the *ni* direct passive sentences with an inanimate passive subject must be

read with a perfective reading but not with a non-perfective one, whereas their *ni yotte* passive counterparts would not impose such a reading restriction. Specifically, they accepted outright *ta-* and *iru*-marked *ni* direct passive sentences carrying a perfective reading, while they did not do so with those carrying a non-perfective reading (i.e., a past reading and a progressive reading for the *ta-* and iru-marked ones, respectively). They furthermore equally accepted the *ni yotte* counterparts irrespective of the two readings, either perfective or non-perfective. The subjects of the low advanced group showed the same judgment pattern as the NS control and the highly advanced groups, albeit to a lesser extent, in rating the *ta*-marked *ni* direct passive sentences. The low advanced group, however, equally accepted the *iru*-marked *ni* direct passive sentences not only with a perfective but also a non-perfective reading. Their mean judgment scores of all the *ni yotte* passive sentences stayed very low (see Predictions 5 and 6).

Third, the subjects of the highly advanced group clearly showed differential judgments in grammaticality between the *ni* indirect passive and the *ni yotte* indirect passive with an adversative reading. This indicates that they knew that the *ni yotte* marking was not compatible with an 'affectee' θ-role subject status of the indirect passive. In contrast, they did not evince a clear judgment distinction between the *ni* direct and the *ni yotte* direct passive with an adversative reading. The subjects of the low advanced group, on the other hand, failed to show any clear contrastive judgments between *ni* and *ni yotte* passives (either direct or indirect) carrying a pronounced adversative reading. It thus appears that they were not sensitive to the incompatibility between an affectee θ-role subject status and the *ni yotte* marking (indicating a non-θ-role subject position) (see Prediction 7).

Fourth, in rating the *ni* direct and the *ni yotte* passive with regard to verb-induced viewpoint differences, the highly advanced and the low advanced groups accepted the *ni* direct passive with Japanese native verbs (expressing a personally involved viewpoint) as well as the *ni yotte* passive with Sino-Japanese verbs (expressing an objective one). Furthermore, both groups rejected the *ni yotte* passive when used with Japanese native verbs. Thus it appears that the subjects of both groups knew that the *ni yotte* passive was consonant with an objective viewpoint, but not with a personal one when the viewpoint differences were brought out by the Sino-Japanese versus Japanese native verb contrast. On the other hand, the highly advanced group, but not the low advanced group, made a contrastive judgment between the *ni* direct passive and the *ni yotte* passive where passivized affective verbs set forth a context in which the passive subject was psychologically affected by the event described by the passive sentence (see Prediction 8). Hence, these highly advanced group's judgment patterns indicate that the subjects of this group knew that the subject position of the *ni yotte* passive is a non-θ-position while that of the *ni* direct passive is an 'affectee' θ-position. By contrast, it was suggested that the low advanced subjects' knowledge of the *ni* direct and the *ni yotte* passive contrast with respect to Japanese native versus Sino-Japanese verbs contrast was an isolated case of knowledge development not attributable to the learning of the critical semantic difference between the two types of passives.

Overall, throughout the above findings pertaining to subjects' semantic knowledge of Japanese passives, it has been convincingly shown that the subjects of the highly advanced group knew that the *ni* passive (direct and indirect) and the *ni yotte* passive are different in light of the passive subject status: viz., the former carries an

'affectee' θ-subject position while the latter a non-θ-one. Particularly noteworthy is that they made differential judgments between perfective and non-perfective readings in rating the *ta*- and *iru*-marked *ni* direct passive sentences despite the unavailability of negative input indicating the ungrammatical status of non-perfective readings of these types of *ni* direct passive. This strongly suggests that the highly advanced subjects deduced these *ni* direct passive grammaticality contrasts from its 'affectee' θ-subject requirement such that an 'affective' reading for an inanimate passive subject is not available when the situation is in a non-perfective description, whereas such a reading is readily available in a perfective description.

There was also evidence suggesting that the low advanced group had been aware that the *ni* direct passive requires an 'affectee' θ-subject. Namely, we found 1) that they knew that the *ni* direct passive might be read with an adversative reading, but not with a non-adversative one; 2) that they had been developing knowledge of the contrastive grammaticality in the *ta*-marked *ni* direct passive with an inanimate subject between perfective and non-perfective readings; and 3) that they had knowledge that the *ni* direct passive was consonant with a personal expression whereas the *ni yotte* (direct) passive was appropriate for an objective one. Hence, the present study has clearly established that as they become highly proficient in the TL, English-speaking learners of Japanese are able to learn that the *ni* passive, direct and indirect, requires an 'affectee' θ-subject whereas the *ni yotte* passive takes on a non-θ-subject (see also Feng, 1993 for successful learning of part of the *ni* and *ni yotte* passive contrasts by Chinese-speaking learners of Japanese).

In contrast, the only semantic area in which the highly advanced group failed to demonstrate the necessary knowledge concerns recognition of the incompatibility between the *ni yotte* direct passive and an enhanced adversative reading. The subjects of this group did not rate the *ni yotte* direct passive with an adversative reading significantly differently from the *ni yotte* passive without such reading. Considering the evidence that they arrived at the knowledge that the *ni* passive requires an 'affectee' θ-subject while the *ni yotte* passive assumes a non-θ-subject position; and, moreover, hypothesizing that the *ni* and *ni yotte* marking contrast served an important role in their semantic interpretation of passive sentences in such a way that the *ni* marking was associated with an adversative reading and the *ni yotte* marking with a non-adversative one, the following speculation follows: subjects of the highly advanced group failed to learn that, albeit to a lesser extent than in the *ni* indirect passive, the passive verb *rare* may intrinsically invoke an adversative connotation in the *ni* direct passive. Consequently, they did not read adversity in the *ni yotte*-marked (not *ni*-marked) direct passive when a neutral-connotation verb was passivized (since there was no source indicating an adversative reading to them in such passive sentence, i.e., the lack of the *ni* phrase and no negative-connotation word). If this line of reasoning is correct, it would be this area, i.e., the property of the passive verb *rare* invoking an adversative connotation in the *ni* direct passive, that is most difficult for English-speaking learners to learn in terms of the semantics of Japanese passives (see also Tanaka, 1993; Watabe et al., 1991 for findings of English-speaking learners' difficulty with use of the adversative *ni* direct passive).

On the whole, as summarized above, the findings of the present study clearly show that the NNS subjects (particularly those of the highly advanced group) classified

the three types of Japanese passives into two semantic classes in exactly the same way as the NS subjects did: one class is characterized as carrying an 'affectee' θ-subject, i.e., the *ni* direct and the *ni* indirect passives, the other as carrying a non-θ-subject, viz. the *ni yotte* passive. (Note also that the low advanced group appears to have developed the knowledge that the *ni* direct passive carries an 'affectee' θ-subject.) This, in turn, leads to the conclusion that the subjects of the highly advanced group successfully attained knowledge of properties of the Japanese passive morphology *rare* with respect to the presence or absence of external θ-role assignment such that the passive verbs of the *ni* passives assign their external 'affectee' θ-role to their subject, while the passive affix of the *ni yotte* passive does not.

In conclusion, together with the findings of their knowledge of passivization processes involved in the three types of passives, the (highly advanced) NNS subjects' knowledge representation of properties of Japanese passives would be characterized as given in table 29 below:

Table 29: NNS subjects' characterizations of the three types of Japanese passive morphology *rare*

	'Affectee' θ-role Assignment	Passivization
ni direct passive	+	+
ni indirect passive	+	+ w/optionality of case absorption
ni yotte passive	-	+

This representation is almost identical with that given in Table 1 which is assumed to represent NSs' characterizations of Japanese passives. This almost perfect

correspondence between the highly advanced NNS subjects' and the NS subjects' representations comes as no surprise in view of the remarkably good knowledge of passives the highly advanced NNS subjects acquired. (As for the low advanced NNS subjects, they seem to have attained knowledge of both properties of the passive verb *rare* of the *ni* direct passive, but not those of the other two.)

There is, however, one difference between the two representations. As discussed above, the highly advanced NNS subjects seem to have opted for analyzing the three types of passives as having passivization processes in common. That is, with respect to the *ni* indirect passive, they appear to have analyzed accusative case absorption as optional, rather than differentiating it from the other two types of passives, i.e., the *ni* direct and the *ni yotte* passives, by analyzing the former as not triggering passivization operations (just as NSs do). Why was this the case? Put differently, why did they choose the first type of analysis over the second when confronted with TL data which had not yet been incorporated into their IL grammar, notwithstanding apparently equal utilities of the two analyses in accommodating such data into their IL grammar development? One line of inquiry would be to explore the possibility that there are some predispositions which constrain the ways in which SL learners tackle the complex task of SLA just like those posited for FLA (e.g., the subset principle). In this particular case, it might be hypothesized that owing to such mechanisms, the highly advanced NNS subjects were guided to opt for the optionality analysis which admits of a single type of the passive morphology *rare* over the one specifying two different types of *rare* with respect to passivization.

There is a large body of SLA studies which describ IL developments or changes in great detail, and which furthermore attempt to account for why such particular changes took place or did not. To the best of my knowledge, there is as yet no SLA study which has explored the more basic question of whether there are any guiding mechanisms (as sketched above) for IL grammar development, and what they are. Our understanding of the product as well as the process of SLA would surely benefit from such an inquiry.

Finally, pedagogical implications of the findings of the present study are considered. First, the widely held view that the *ni* indirect passive is most difficult for English-speaking learners to learn received strong supportive evidence in the present study. We found no clear evidence suggesting that the low advanced group, let alone the intermediate group, had learned this type of passive in either syntactic or semantic terms. More noteworthy is that we successfully identified where such learning difficulties resided. Namely, it was found that the prime and critical learning difficulty was with its syntactic properties, more specifically, its embedded clause not being passivized despite the presence of the passive verb *rare* and the *ni* phrase. One pedagogical implication of this finding would be as follows: since the presence of an accusative *o*-marked NP is the only apparent indication that the lower clause is unpassivized, enhancing English-speaking learners' attention to its presence may be effective in helping them recognize this peculiar property of the *ni* indirect passive. One promising area in future research would then be to explore ways to draw their attention to the accusative *o*-marked NP in the lower clause of the *ni* indirect passive.

Such instructional intervention strategies may be devised from a wide variety of techniques discussed extensively in the research paradigm of 'focus on form' (broadly

defined) (see Doughty & Williams, 1998 for thorough discussions of the use of 'focus on form' techniques and its pedagogical implications). Specific proposals of techniques may include 'briefing' (brief, contextualized, yet explicit instructions on the structure of the *ni* indirect passive) together with focused repetitions and recasts of the target form (viz. the *o*-marked NP) in an intensive fashion.

Next, as for the *ni* direct passive, it is quite encouraging that we found that both the highly advanced and the low advanced groups had come to know that the *ni* direct passive takes an 'affectee' θ-subject. A pedagogically and theoretically important question then arises; viz., what enables English-speaking learners to arrive at this knowledge which often hinges on the recognition of delicate semantic nuances? The answer could prove vital in expediting their learning processes in this aspect of the *ni* direct passive. (But in order to address this question, we certainly need to achieve a better theoretical understanding of its semantic properties, particularly in view of the *ni* versus the *ni yotte* marking contrasts in Japanese passives.)

Experimental studies controlling input provided to learners may reveal insightful information on what leads them to associate θ-subject status with the *ni* direct passive. One good candidate for such experimental input controlling would include the use of typographical enhancement of input ingrained in the input flood in written modes. In order to control the characteristics of input in such research, the test sentences used in the present study will serve as a basis to build upon.

Lastly, given the complementary nature of the *ni yotte* passive and the *ni* direct passive in semantic terms, research along the above lines should also provide clues as to how best to facilitate the learning of semantic properties of the *ni yotte* passive. Equally

important for this type of passive is to explore ways to help learners attend to the morphological difference between the *ni yotte* and *ni* marking. These considerations should be geared to assisting the English-speaking learners in realizing that the *ni yotte* passive is essentially the same as the English passive.

ENDNOTES

ENDNOTES

CHAPTER 1

1 This English gloss is modified later in the thesis when a crucial distinction in Japanese passives is introduced.

2 Roughly speaking, both *ni* and *ni yotte* correspond to *by* in the English passive. *Yotte* 'owing' in *ni yotte* is an inflected form of the verb *yoru* 'owe.' It forms an adverbial phrase with the dative marker *ni*, i.e., *John ni yotte*, as in (3). This verb may also occur elsewhere in the language, but regularly appears with *ni*.

3 Later, Kuroda (1979) rejected a unique semantic characterization of "affectivity" such as "the passive subject being *adversely* affected" (p. 310). He instead claimed that "the semantic concept of "affectivity".... manifests itself in various forms of semantic effects, depending on other semantic factors such as the lexical meanings of other elements in the sentence" (pp. 310-311). Such examples of semantic effects which clearly bring out the "affectivity" connotation in the *ni* direct passive are illustrated later in this section. (See Kuno, 1983; 1986; Kuroda, 1985 for debates over the semantic theory of Japanese passives.)

4 Basic structures of these two verb classes are contrasted below:

i)	John-ga	Bill-o	mi-ta
	-NOM	-ACC	see-Pst
	'John saw Bill'		
ii)	John-ni	Bill-ga	mie-ta
	-DAT	-NOM	visible-Pst
	'Bill was visible to John'		

In the first verb category (i.e., transitive verbs), the experiencer (perceiver), *John*, is marked with a Nominative case marker and the patient (the object of perception), *Bill*, is Accusative case-marked. In the second verb category (e.g. unaccusative verbs), by contrast, the experiencer is marked with a Dative case marker *ni*, different from the passive agentive marker *ni*, and the patient is Nominative case-marked (See Martin, 1975 for other such pairs of transitive verbs and unaccusative verbs).

5 The *tokoro* phrase is considered as a kind of temporal adverbial phrase like a temporal 'as' phrase as given in the English gloss.

6 Hoshi assumes the Principles and Parameters approach (see Chomsky, 1981; 1986; 1995).

7 Other linguists such as Kitagawa (1986) and Miyagawa (1989) use "experiencer", a more general thematic term, for the θ-role assigned to the *ni* passive subject.

8 Lasnik & Fiengo (1974) observed this licensing condition on subject oriented adverbs and alluded to a distinction between *be* versus *get* passives in English, much as in the distionction between *ni* versus *ni yotte* passives in Japanese (pp. 553-554).

9 Hoshi's (1994a; 1994b) analysis adopted Saito's (1982, cited in Hoshi, 1994a) theory of case assignment in Japanese: "nominative case *ga* is structurally assigned to an NP which is immediately dominated by IP; accusative case *o* is assigned to an object; as for the dative marker *ni*, it is assigned to an argument of a verb which cannot surface with either nominative case *ga* or accusative case *o*" (p. 23).

10 Hoshi (1994a) adopted Chomsky's (1981) and Marantz's (1984) proposal that passivization is a morphological process triggered by an affix, i.e., *-rare-* in the case of Japanese passives.

11 Following Kitagawa (1986) and Kuroda (1965), Hoshi (1994a) assumes that the passive verb *rare* assigns an 'event' role to the embedded clause without defining it (nor do Kitagawa and Kuroda offer it). Since the present study does not hinge on a precise nature of this semantic role, it will be assumed.

12 See Larson (1988) for a discussion of the Larsonian VP shell and Washio (1989/1990) for an insightful application of the VP shell structure to the analysis of Japanese passives to which Hoshi is indebted.

13 See Hoshi (1994a) for more arguments for the presence and movement of PRO within VP_2 in (24). Since the precise nature of the empty category concerned does not affect discussions of the present study, the structures proposed in (24) will simply be assumed.

14 The first type corresponds to the *ni* direct passive and the second to the *ni yotte* passive in the terms followed in the present study.

15 Tanaka (1993) maintained, as a generally held view, that the indirect passive is difficult to learn, especially for learners whose first language (L1) does not have the same kind of passive construction.

16 Postpositional *kara* designates a source/origin meaning to the NP after which it is placed; on the other hand, prepositional *de* assigns a meaning of instrument or locale of activity.

17 The motivation for inclusion of NNS subjects in Spencer's (1973) study is irrelevant for the present study; however, it is given in the text for the sake of completeness.

18 Since there is no information on the test sentences available in the paper, it is not clear on which sentences they agreed or disagreed, nor how many of the accepted sentences were accepted by both groups.

19 Two sentence structures were inadvertently omitted from the booklets for the absolute judgments condition, resulting in a total of ten structures tested.

20 The Accessibility Hierarchy is given in (i) below:

(i) Subject > Direct Object > Indirect Object > Object of Preposition > Genitive > Object of Comparative

It is Implicational Universal in that if a given language X has, for instance, Indirect Object relative clauses, it also has all relative clause types higher on the hierarchy, namely, Direct Object and Subject relative clauses. Languages differ in terms of the lowest relative clause type they allow. See also Gass & Selinker (2001).

21 The erratic change between Time 1 and Time 2 was operationalized as "a change of 6 points, that is, from +3 to -3 or vice versa" (Gass, 1994, p. 317).

CHAPTER 2

1 Kuno (1983; 1986) plainly rejected some of the semantic differences between the *ni yotte* and the *ni* direct passives Kuroda (1979) proposed.

Chapter 3

1 Data were collected from a total of 57 NSs for this group. Thirty-six of them did not specialize in Japanese theoretical linguistics: their concentrations included English linguistics, teaching Japanese as a second language, psycholinguistics, historical linguistics, and sociolinguistics. Consequently, they were not included in the present study.

2 Ten subjects were excluded from this group since they had taken linguistics courses before.

3 There was one sophomore majoring in English literature in this group. He was included in the present study for the following considerations: 1) he had not taken any linguistics courses; and 2) judging from his year in college (the first semester of the sophomore year), he probably had not taken his major subject matter courses yet.

4 It was decided at the outset of the present study that beginning and low intermediate learners of Japanese would not be considered due to the complexity of the target structures under investigation.

5 As many as 26 data sets collected were not included in the present study for one or more of the following reasons: 1) subjects were not native speakers of English, but were either Chinese or Korean; 2) the questionnaire, the pre-test, or the background

information sheet was not completed and as a consequence part of the necessary information was not available; 3) Pre-test scores were too low.

6 There are four levels in the JLPT, e.g., Levels 1, 2, 3, and 4. They are broadly characterized as the levels attainable after studying Japanese for 900, 600, 300, and 150 hours, respectively.

7 In the testing materials, the term *acceptability* rather than *grammaticality* was used to avoid the possibility of encouraging subjects to rely on explicit knowledge of grammar in rating test sentences which might have resulted from a potential association of the latter term with prescriptive grammar. This thesis, however, adopts the latter term which is more commonly in use to refer to performance data on sentence acceptability assessments. (See Birdsong, 1989; Schütze, 1996 for clarification of theoretical distinction between acceptability judgment and grammaticality judgment.)

8 The following have been consulted to construct the test sentences: Alfonso, 1980; Hoshi, 1994a; Howard & Niyekawa-Howard, 1976; Inoue, 1976; Jorden, 1987; 1988; 1990; Kitagawa, 1986; Kuno, 1973; 1983; Kuroda, 1965; 1978; 1979; Martin, 1975; Miyagawa, 1989; Miyagi, 1996; 1999; Shirai & Kurono, 1998; Teramura, 1982; 1984; Tsujimura, 1996.

9 Determination of the scope of test sentences for syntactic properties was based on Hoshi's (1991; 1994a; 1994b) theory and Tanaka's (1992) data.

10 It is assumed here that the internal argument *uta* 'song' has initially moved to SPEC of IP and then been topicalized, i.e., has moved to a topic position. (See Miyagawa, 1989 for a summary of various analyses of topic constructions in Japanese.) A detailed analysis of topicalization in Japanese is irrelevant for the purposes of the present study in that nothing critical hinges on it.

11 Non-operation of PRO movement was not investigated in the present study. NNS subjects' knowledge of PRO movement, proposed in Hoshi (1991; 1994a; 1994b), is very difficult to test due to its non-phonetic, abstract nature.

12 Furthermore, in (36a), *John* undergoes topicalization.

13 Determination of the scope of test sentences for semantic properties was based on Kuroda's (1979) analysis of Japanese passives.

14 Verbs used to test subjects' knowledge of this semantic property were carefully selected to include each class of the following verbs; activity, achievement, and accomplishment verbs. Works consuled include Inoue (1976); Shirai & Andersen (1995); Shirai & Kurono (1998); Teramura (1982; 1984); and Tsujimura (1996). This was felt necessary to counterbalance any interaction a particular class of verbs may have with the aspectual interpretation of *te iru* or *ta* forms.

15 See Bardovi-Harlig & Reynolds, 1995; Shirai & Andersen, 1995; and Shirai & Kurono, 1998 for acquisition of tense and aspect at early stages of acquisition. Although the acquisition of the perfective reading of the *te iru* form presents some learning difficulty to learners at *early* stages, NNS subjects of the present study at their (very) *high* proficiency levels were extremely likely to have acquired both *ta* and *te iru* forms.

16 The distractor sentences with *te iru* and *ta* forms were also intended for use as an indicator of NNS subject's knowledge of the respective form. It turned out, however, that these sentences were not well-constructed for this purpose. Hence, they were not used as planned in the analysis. See also endnote 15 above in this chapter.

17 There were cases where participants requested that their corrected proficiency and vocabulary tests be sent back to them together with a brief explanation of properties of Japanese passives in question. Their requests were granted.

CHAPTER 4

1 Statistical techniques employed in this chapter were determined through consultation with a statistician. See Neter, Wasserman, & Kutner (1990) for an explication of them.

2 When the mean judgment score of a given test sentence was positive, that judgment was considered to be grammatical, whereas when it was negative it was regarded as ungrammatical.

3 There are three possible combinations of the two NS groups' judgments of any given test sentence vis-à-vis the theory prediction: 1) both groups agreed with it; 2) one group agreed but the other did not; and 3) neither group agreed. There were only two cases where neither group agreed with the predictions (discussed later). There are, thus, basically two patterns of group judgment combinations to be considered: 1) those where both groups agreed with the prediction and 2) those in which one group agreed, but the other did not.

4 See Results and/or Discussion for discussions of these four test sentences on which linguistically naïve NSs did not agree with the predictions.

5 The unaccusative test sentences were included here since they are not passive sentences consisting of the *ni yotte*, the *ni* direct, and the *ni* indirect passives.

6 Sentence (47b) is supposedly ungrammatical for the following reason: being a sentient entity (and thus being affected by the event described), the subject must be assigned an 'affectee' θ-role which the *ni yotte* passive does not provide. Sentence (47c) is expected to be ungrammatical since the sentence-initial adverbial phrase *saiwai na koto ni* 'fortunately' is not consonant with the adversative reading this *ni* direct passive sentence carries.

7 This particular item (47a) escaped my attention in discussion of the test sentences with an instructor of Japanese and in pilot testing.

8 The other test sentence of the *ni* direct passive with an adversative reading was rated as grammatical by both groups (mean judgment scores of 1.84 for the naïve group and of .48 for the sophisticated group).

9 The numbers given here correspond to those assigned to the test sentences in Appendix J.

10 It is not entirely clear why the *ni yotte* passive was judged lower than the *ni* direct and *ni* indirect passives. First, in test-sentence terms, Group 1's mean ratings of two test sentences of the *ni yotte* passive were 1.30 (SD = 1.06) for #47 and 1.07 (SD = 1.31) for #50. There was no significant judgment difference between them ($F(1, 29) = .518, p = .477$), suggesting that they were judged similarly. Second, in individual subjects' terms, 83.33% of Group 1 (25 out of 30 subjects) rated #47 as grammatical and 77.42% (24 out of 31 subjects) judged #50 as grammatical (both figures were not alarmingly low). Furthermore, no single subject of Group 1 judged them both ungrammatical. It is thus not the case that there was a serious confounding problem with either one of the two test sentences nor that any small number of subjects' judgments distorted Group 1's general judgment trends.

11 These two types of ungrammatical sentences correspond to those of Ungrammatical 1 and 2 in Table 10. See also Figure 4 for illustration.

12 These two types of ungrammatical sentences correspond to those of Ungrammatical 1 and 2 in Table 11. See also Figure 5 for illustration.

13 For this analysis, the *ni* indirect passive sentences with intransitive and transitive verbs were collapsed since there was no judgment difference between the two types for any group; $F(1, 30) = 2.986, p = .094$ for Group 1, $F(1, 24) = .373, p = .547$ for Group 2, $F(1, 35) = 1.019, p = .320$ for Group 3, and $F(1, 19) = .581, p = .455$ for Group 4.

14 Group 1's slightly lower judgment of the *ni* indirect passive with intransitive verbs was due to their relatively low judgment of one of the two test sentences, i.e., #13 (which was taken from Kuroda, 1979). Group 1's mean judgment score of it was .84 with the SD of 1.42 (in contrast to 1.61 with the SD of .92 for the other test sentence, viz. #16). In individual response terms, 71.0% of Group 1 (22 out of 31 subjects) rated it as grammatical while 29% of them (9 in 31) judged it as ungrammatical.

15 In Group 2 judgments of *ni* direct passive sentences, there was no significant difference between the sentences with an adversative reading and those used for the syntactic analysis ($F(1, 24) = .320, p = .577$). It is thus not the case that the absence of judgment differences found between the *ni* indirect and direct passives in the present analysis was due to a lowered judgment of the *ni* direct passive with an adversative reading.

16 This difference appears to be due to the extremely high score in judgment of the *ni* direct passive with a perfective reading, e.g., the mean judgment score of 1.98 and the SD of .0898 rather than because of a low rating of the *ni yotte* passive with a past reading. In individual response terms, there was only a single occasion of +1 out of 64 responses in rating the *ni* direct passive. The remaining 63 were all +2. As for the *ni yotte* passive with a past reading, there was no significant judgment difference in all four types of *ta*- and *iru*-marked ni yotte passive sentences in question ($F(3, 90) = 1.618, p = .191$), suggesting that the *ta*-marked *ni yotte* passive with a past reading was not judged peculiarly low compared to the other types of *ni yotte* passive sentences.

17 Group 2 did not reject the *ni* direct passive with a past reading as ungrammatical (a mean judgment score of .260). An inspection of Group 2 subjects' individual responses to the two sentences in question showed that six subjects of a total of 25 judged both sentences as ungrammatical and eight subjects rated one of the two as ungrammatical; on the other hand, eleven subjects did not judge either of them as ungrammatical. Note, however, that in the analysis of judgments of three syntactic types of passives, it was found that Group 2 subjects rated the *ni yotte* passive significantly lower than the *ni* direct passive. By contrast, the *ni* direct passive with a past reading in this analysis was judged significantly lower than the *ni yotte* passive of both readings. There was no significant judgment difference in all three types of *ni yotte* passives above ($F(2, 48) = 2.308, p = .110$), suggesting that *ta*-marked *ni yotte* passive sentences of both readings were not rated particularly low compared to the ones used in the syntactic analysis. This in turn strongly indicates that the *ni* direct passive with a past reading was judged conspicuously low.

18 The term 'tendency' was used in the text since Group 2 as a group did not reject the *ni* direct passive with a past reading as ungrammatical.

19 Group 3's mean judgment score of the *ni* direct passive with a past reading was .625. An inspection of Group 3 subjects' individual responses to the two sentences in question indicated that eight subjects of a total of 36 judged both sentences as ungrammatical and six subjects rated one of the two as ungrammatical; on the other hand, twenty-two subjects did not judge either of them as ungrammatical.

20 Group 2's mean judgment score of the *ni* direct passive with a progressive reading was .48. An inspection of Group 2 subjects' individual responses to the two sentences in question showed that five subjects of a total of 25 judged both sentences as ungrammatical and eight subjects rated one of the two as ungrammatical; on the other hand, eleven subjects did not judge either of them as ungrammatical and one subject chose the 'unsure' option for both sentences.

21 Groups 1 (and 2) did not reject the *ni yotte* indirect passive with transitive verbs as ungrammatical (mean judgment scores of .26 and .0600). This will be considered in the Discussion.

22 There were no significant judgment differences between the *ni* direct passive sentences with a pronounced adversative reading and those without it (used for the syntactic analysis) for Groups 2 and 3 ($F(1, 24) = .320, p = .577$ for Group 2; $F(1, 35) = .053, p = .819$ for Group 3).

23 Since there is no grammatical *ni yotte* indirect passive, a comparison between grammatical and ungrammatical *ni yotte* indirect passives cannot be performed. However, note that Group 2, which successfully made an expected grammaticality distinction, rated the *ni yotte* indirect passive with intransitive verbs as ungrammatical (with a mean judgment score of -.60). The results of the *ni yotte* indirect passive with transitive verbs will be considered separately in the Discussion.

24 The grammatical test sentences used for the syntactic analysis were contrived to be as neutral in meaning as possible, i.e., not to import any markedly pronounced effect such as an adversative reading or viewpoint specification by lexical choice.

25 Specifically, the inspection of responses to '*korosu*' used in sentences #1 and #2 disqualified four subjects of Group 3 and six of Group 4; for '*satugai-suru*' used in sentence #3, four of Group 2, fifteen of Group 3, and twelve of Group 4 were excluded. Similarly, the examination of vocabulary test responses to '*homeru*' used in sentences #4 and #5 disqualified six subjects of Group 3 and eight of Group 4; for '*syoosan-suru*' used in sentence #6, ten of Group 2, twenty-five of Group 3, and twelve of Group 4 were excluded.

26 Group 1's non-negative judgment mean score for the *ni yotte* passive with Japanese native verbs was due to its acceptance of sentence #2 (= (65b) in the text). Although Kuroda (1979) discussed sentences such as (65b) as an example of the incompatibility between the *ni yotte* passive and Japanese native verbs, it was judged as grammatical by Group 1 (with a mean judgment score of 1.23). In individual response terms, 77.42% of Group 1 (24 out of 31 subjects) rated it as grammatical while 16.13% of them (5 out of 31) judged it as ungrammatical; 6.45% of them (2 out of 31) chose the 'unsure' option. On the other hand, the linguistically sophisticated group judged it as ungrammatical (with a mean judgment score of -1.05). As for the other test sentence #5, both the linguistically naïve and sophisticated groups rejected it with mean judgment scores of -.77 and -1.19, respectively.

27 This process disqualified three, sixteen, and seven subjects from Groups 2, 3, and 4, respectively.

28 Group 1 rated *ni* direct passive sentences quite low (a mean judgment score of .08065). Their judgment means for the two test sentences were .58 for #7 and -.42 for #10 ($F(1, 30) = 8.774, p = .006$). Thus, the low judgment mean score of #10 (i.e., (66a) in the text) was partially responsible for the overall low rating. However, the other sentence (adopted from Kuroda, 1979) did not receive a high rating, either. The low rating of the *ni* direct passive with affective verbs by Group 1 will be considered in the Discussion.

29 Three and five subjects of Groups 2 and 3, respectively, were excluded from the analysis.

CHAPTER 5

1 In this respect the present study differed from the previous experimental studies which addressed the issue of the reliability of linguists' judgments where subjects assessed a wide range of types of sentences.

2 The age of 2;3 and 6;2 indicates two years and three months of age and six years and two months old, respectively.

3 The most advanced children correctly performed nearly 80% of the test sentences for the two word order types of passive.

4 See Otsu, 1999; Suzuki, 1998 for their methodological concerns about these studies. Specifically, they criticize these previous studies for not taking care to establish a passive subject as a discoursal topic, which leads not only to unnaturalness of the sentence, but also to difficulty with shifting a viewpoint to the one appropriate for the passive sentence.

5 According to Fox & Grodzinsky's (1998) characterization of the non-truncated passive with 'actional' verbs, "by" can directly assign the agent/affector θ-role to its complement noun. This obviated the need for the θ-role transmission process to come into play in this type of passive, leading to children's good comprehension performance. They were capable of comprehending the truncated passive with 'non-actional' verbs because there is no by-phrase in this passive. (See also Baker, Johnson, & Roberts, 1989; Grimshaw, 1990; Jaeggli, 1986 for detailed discussions of the nature of passivization mechanisms.)

6 Hoshi's (1994a; 1999) analysis of the *ni* indirect passive as [- Passivization] processes is primarily motivated by the difference in the reflexive binding phenomena between the *ni* direct and the *ni* indirect passives. Specifically, the *ni*-marked NP of the *ni* direct passive does not serve as an anaphor for reflexive *zibun* 'self' while that of the *ni* indirect passive does, suggesting that the latter NP maintains its subject status (which in turn implies that it is not passivized). His additional arguments concern passivizability of ergative verbs as well as the obligatory nature of the *ni* phrase in the *ni* indirect passive. See Hoshi (1994a; 1999) and references cited there for various analyses of these phenomena.

7 In individual response terms, for one sentence (#20), 48.39% of Group 1 (15 out of 31 subjects) rated it as ungrammatical whereas 51.61% of them (16 in 31 subjects) accepted it. For the other sentence (#23), 41.94% of them (13 out of 31 subjects) rejected it while 54.84% of them (17 in 31 subjects) judged it as grammatical (with one subject who opted for the 'unsure' option).

8 The Double-o Constraint states that a verb can assign accusative case to at most one NP in Japanese (see Harada, 1973, cited in Hoshi, 1999).

9 Hoshi (1999) presented some evidence for the NP movement analysis of sentence (80) by drawing on the requirement that a numeral quantifier and its associated NP be mutually c-commanded (see Miyagawa, 1989 for this requirement).

10 Hoshi (1999) leaves it for further research to precisely characterize the nature of an "additional" object/ "affected" argument.

11 Alternatively, Kuno (1983) simply discarded the line of interpretation of the *ni* direct passive given by Kuroda (1979), sketched in the text, as a matter of personal preference.

12 The present study found some evidence that the highly advanced group appears not to have fully learned that neutral-connotation verbs which have been passivized may carry an adversative reading in the *ni* direct passive. See the full discussion of the rating of adversity for the *ni* direct passive in the Discussion.

13 This is the only study to date in SLA investigating the acquisition of unaccusative verbs in Japanese to my best knowledge (see Miyamoto, Wexler, Aikawa, & Miyagawa 1998 for this issue in first language acquisition of Japanese).

14 Surface unaccusativity refers to a situation where the sole argument of a verb remains in the object position without moving out of the VP (see Kageyama, 1993; 1996; Miyagawa, 1989 for unaccusativity in Japanese).

15 Takezawa (1987) provides the surface condition for the case drop phenomenon as follows: "[w]hen an NP is adjacent to and c-commanded by V, the Case marker attached to it can drop" (p. 126).

APPENDICES

APPENDIX A

Linguistically sophisticated NS subject background information

Table 30: Linguistically sophisticated NS subject background information

Subject ID	*Specialty*	*Educational Level*	*Age*	*Gender*
501	JapLX	Doctoral	29	M
502	JapLX	Doctoral	29	M
503	JapLX	Doctoral	30	M
504	JapLX	Doctoral	24	M
505	LX	Doctoral	37	M
506	JapLX	Doctoral	27	M
507	JapLX	Senior	22	F
508	LX	Master	23	M
509	JapLX	Doctoral	25	F
510	JapLX	Doctoral	29	M
511	LX	Doctoral	26	M
512	JapLX	Master	25	F
513	JapLX	Master	25	M
514	JapLX	Master	27	F
515	JapLX	Master	23	F
516	LX	Instructor	27	M
517	JapLX	Senior	22	F
518	CogSci	PhD	52	M
519	LX	PhD	35	M
520	LX	Master	23	F
521	LX	MA	32	F

Note 1: JapLX, LX, and CogSci stand for Japanese linguistics, linguistics, and cognitive science, respectively.
Note 2: Doctoral and Master represent subjects in their respective graduate programs whereas PhD and MA indicate PhD and MA holders.

APPENDIX B

Linguistically naïve NS subject background information

Table 31: Linguistically naïve NS subject background information

Subject ID	Major	Academic Year	Age	Gender
101	Socio	Junior	21	M
102	Socio	Junior	20	F
103	Socio	Sophomore	20	F
104	Socio	Sophomore	19	F
105	Socio	Junior	21	M
106	Socio	Junior	22	M
107	Socio	Senior	21	F
108	Socio	Junior	21	F
109	Socio	Senior	21	F
110	Socio	Senior	21	F
111	Socio	Junior	21	M
112	Socio	Junior	20	F
113	Socio	Junior	20	F
114	Socio	Sophomore	21	M
115	Socio	Senior	21	F
116	Socio	Junior	20	M
117	Socio	Sophomore	19	F
118	Socio	Junior	20	F
119	Eng Lit	Sophomore	20	M
120	Socio	Sophomore	19	F
121	Socio	Sophomore	19	F
122	Socio	Sophomore	19	M
123	Socio	Sophomore	20	F
124	Socio	Sophomore	19	F
125	Socio	Junior	20	F
126	Socio	Junior	20	M
127	Socio	Junior	21	F
128	Socio	Junior	21	F
129	Socio	Senior	21	F
130	Socio	Junior	20	F
131	Socio	Senior	21	F

Note: Socio and Eng Lit represent sociology and English literature, respectively.

APPENDIX C

NNS subject background information

Table 32: NNS subject background information

Subject ID	Group	JLPT	Length of learning[a]	Length of Japan visit[b]	Level in education	Major	Age	Gender
1	2	25	5 yrs	1 yr	MA	Japanese Linguistics	28	F
2	2	25	4 yrs 2 mons	4 yrs	MA	Japanese Literature	27	F
3	2	25	4 yrs		Senior	Japan Studies	23	M
4	2	25	5yrs 6 mons	9 yrs 6 mons	Professor		52	M
5	2	25	4 yrs	2 mons 2 wks	BS	Electrical Engineering	23	M
6	2	25	6 yrs	5 yrs	MA	Japanese	34	M
7	2	25		3 yrs	Professor			M
8	2	25		1 yr	Senior	Political Science/Japanese	19	M
9	2	24	7 yrs	1 yr 3 mons	Senior	Japanese/International Studies	23	M
10	2	24	20 yrs	10 yrs	Professor	Japanese		F
11	2	24	11 yrs	6 yrs	MA	East Asian Studies	30	F
12	2	24		2 yrs	Junior	Electrical Engineering	20	M
13	2	24	20 yrs	20 yrs	MA	Engineering	57	M
14	2	24	12 yrs	9 yrs	PhD		39	M
15	2	24	36 yrs	11 yrs	Professor		55	M
16	2	23	10 yrs	1 yr	Junior	English Lit. & Lang./Japanese Lit. & Lang.	19	F
17	2	23	7 yrs	6 yrs		Post Bac.	29	F
18	2	23	5 yrs	1 yr	Junior	Electrical Engineering	23	M
19	2	23	8 yrs	2 yrs		Japanese	23	M
20	2	23	13 yrs	2 yrs	PhD	Japanese Literature	31	M
21	2	23	12 yrs	2 wks			19	M
22	2	22		1 yr	Freshman	Biology	19	M
23	2	22	3 yrs	1 yr	Senior	History/Japanese	21	M
24	2	22	5 yrs		Sophomore	Japanese/Anthropology	19	M
25	2	22	7 yrs	1 mon 1 wk	Senior	Computer Science	21	M
26	3	21	4 yrs	3 mons	Senior	Biology/Japanese	26	M
27	3	21		2 yrs	Junior	Management Information Systems	21	F
28	3	21	11 yrs	1 mon			27	M
29	3	21	4 yrs	1 mon	Sophomore	Journalism	19	F
30	3	21	3 yrs	2 mons	Senior	Anthoropology	22	M
31	3	21	1yr 6 mons			Japanese/Asian Studies	19	M
32	3	21	2 yrs	10 mons	Sophomore	Japanese	21	M
33	3	21	13 yrs	15 yrs				
34	3	20	4 yrs	4 yrs	Senior	Management Information Systems	22	F
35	3	20	3 yrs 6 mons		Senior	Japanese	21	F

Table 32 (cont'd)

Subject ID	Group	JLPT	Length of learning	Length of Japan visit	Level in education	Major	Age	Gender
36	3	20	7 yrs	5 yrs	MA	Japanese Pedagogy	29	M
37	3	19.4444	4 yrs	10 mons	Senior	Asian Studies	22	M
38	3	19		1 yr 8 mons	Senior	Economics/Japanese	22	M
39	3	19	3 yrs	9 mons	Senior	East Asian Lang & Literatures	21	F
40	3	19	6 yrs	4 yrs	MA	Anthropology/Japan Studies	30	F
41	3	19	4 yrs	3 mons	Senior	Computer Science & Japanese	22	M
42	3	19	7 yrs	10 mons	Senior	Japanese/International Studies	25	F
43	3	19	4 yrs	10 mons	Senior	East Asian Studies	21	F
44	3	18	3 yrs	1 mon	Junior	Engineering/Japanese	27	M
45	3	18	4 yrs	3 mons		History/Japanese	22	M
46	3	18	3 yrs 6 mons	3 mons	Senior	International Studies	22	M
47	3	18	3 yrs	1 yr	Senior	Anthoropology/Japanese	23	M
48	3	18	4 yrs	2 mons			56	M
49	3	18	2 yrs 6 mons		Senior	Spanish	21	M
50	3	18	1 yr 6 mons		Junior	Japanese	22	M
51	3	17	3 yrs 6 mons	6 mons	Senior	Computer Science	22	M
52	3	17	3 yrs	10 mons	Sophomore	International Affairs/East Asian Studies	19	M
53	3	17	3 yrs	3 yrs	BA	Anthropology/Arts	31	M
54	3	17	2 yrs		Sophomore	Japanese	19	M
55	3	17	3 yrs	1 yr	Junior	Japanese/Business	20	M
56	3	16	2 yrs 6 mons		Junior	Computer Science/Japanese	20	M
57	3	16	2 yrs 6 mons		Senior	Business	22	F
58	3	16	4 yrs 6 mons	1 yr	MA	East Asian Studies	25	F
59	3	16	6 yrs	4 mons	Senior	International Affairs	22	F
60	3	16	4 yrs		Senior	International Affairs	21	F
61	3	16	2 yrs		Junior	Japanese	21	F
62	4	15	7 yrs	1 mon 2 wks	Sophomore	Biology/Japanese	19	F
63	4	14	3 yrs		Senior	Japanese	22	M
64	4	13	6 yrs	4 mons	Sophomore	Japanese	19	F
65	4	13	7 yrs	2 wks	Junior	Journalism/Japanese	20	F
66	4	13	5 yrs	1 mon 2 wks		Japanese/Mathmatics	20	F
67	4	13	2 yrs 6 mons		Junior	Japanese	19	F
68	4	13	8 yrs	1 mon 2 wks			18	M

Table 32 (cont'd)

Subject ID	Group	JLPT	Length of learning	Length of Japan visit	Level in education	Major	Age	Gender
69	4	12	3 yrs	1 mon 2 wks	Senior	Japanese	25	M
70	4	12	3 yrs 6 mons			Japanese	22	F
71	4	11	2 yrs 6 mons	1 mon	Junior	Japanese	24	M
72	4	11	3 yrs		Junior	English	20	M
73	4	11	3 yrs 1 mon	1 mon 1 wk	Senior	Organizational Communication	21	M
74	4	11		1 yr	Senior	Mathematics	22	M
75	4	11	3 yrs		Junior	East Asian Lang & Literatures	23	M
76	4	11	7 yrs	2 mons	Junior	East Asian Studies	20	F
77	4	9	3 yrs		Junior	Asian Studies	21	F
78	4	9	3 yrs	1 mon	Junior	Criminology	20	F
79	4	9	3 yrs 6 mons	2 wks	Junior	East Asian Studies	21	F
80	4	9	3 yrs		Junior	Biology	21	F
81	4	8	4 yrs	4 mons	Senior	International Affairs/Japanese	21	F

a., b. Empty cells in the Length of learning and the Length of Japan visit columns indicate that relevant information was either unavailable or uninterpretable in the background information sheets.

APPENDIX D

NS subject background information questionnaire

言語学（日本語学）・外国語履修歴について
(Background Information Sheet)

下記の項目について、簡単にお答え下さい。

1. 氏名 (Name)：

2. 大学名 (University)：

3. 専攻 (Major)：

4. (a) 学年 (Year/Level) & (b) 年齢 (Age) & (c) 性別 (Gender)

(a) (b) (c)

5. 言語学履修歴 （これまでに履修した（応用）言語学（日本語学）関係の科目を簡単にお書き下さい）(Linguistics-related courses taken)：

6. 外国語履修歴（これまでに履修した外国語を簡単にお書き下さい）(Foreign languages learned)

a. 外国語 (Foreign languages)：

b. 時期 (When)：

c. 期間 (How long)：

7. 留学歴（簡単にお書き下さい）(Study abroad experiences)：

a. 留学先 (countries visited)：

b. 時期 (When)：

c. 期間 (How long)：

APPENDIX E

NNS subject background information questionnaire

Background Information Sheet

Please fill out the following items briefly.

1) Name: 2) Gender: 3) Age:

4) Major: 5) Year of Study:

6) Primary Language(s)

About Japanese Learning Experiences

7a) Length of Learning (when and how long):

7b) Most Recent Japanese Language Course You Took – Name and Grade Received:

8) Textbooks Used:

9) Previous visiting experience in Japan (in what capacity, when, and for how long):

10) Outside-of-classroom contact with Japanese (with whom and how frequently):

11) Foreign Language Learning Experience Other Than Japanese (what and how long):

APPENDIX F

NNS proficiency test

Proficiency Measurement (Suggested Time: **20 minutes**)

PLEASE ANSWER THE FOLLOWING BY YOURSELF. DO NOT CONSULT A GRAMMAR REFERENCE BOOK OR A DICTIONARY.

I. Circle the most appropriate word that goes in the parenthesis from the four choices given below each sentence. (Please DO NOT write the word in the parenthesis.)

(Example)

わたしは 毎朝(まいあさ) 新聞(しんぶん) (　　) 読(よ)みます。

1 が　　2 の　　3 を　　4 で

1 台風(たいふう) (　　) 建物(たてもの)が こわれました。

1 に　　2 の　　3 で　　4 と

2 今(いま)から アルバイトに 行(い)く(　　)、先(さき)に 帰(かえ)らせて 下(くだ)さい。

1 が　　2 ので　　3 のに　　4 とき

3 この 問題(もんだい)は 先生(せんせい) (　　) 分(わ)かりませんでした。

1 のに　　2 とも　　3 ので　　4 でも

4 「いつ 来(き)たんですか。」

「きのうの 夜(よる) こちら (　　) 着(つ)きました。」

1 で　　2 に　　3 を　　4 が

5 田中(たなか)さんは ギターを (　　) ひきます。

1 じょうず　　2 じょうずな　　3 じょうずで　　4 じょうずに

-Over-

6　映画を(　　) あとで、お茶でも 飲みましょう。

1 見る　　2 見て　　3 見た　　4 見よう

7　テープは 後で 使いますから、ここに (　　) おいて 下さい。

1 ならんで　　2 ならんだ　　3 ならべる　　4 ならべて

8　私が 作った やさいジュースです。どうぞ、お(　　) 下さい。

1 飲め　　2 飲む　　3 飲み　　4 飲んで

9　「じゅうしょは (　　) いいですか。」

「いいえ、おねがいします。」

1 書かない　　2 書かないでは

3 書かなくては　　4 書かなくても

10　田中さんは 今日 出かけると 言って いましたから、るすの (　　) です。

1 ため　　2 こと　　3 はず　　4 つもり

11　その ことは きのう 山田さんに つたえて (　　)。

1 おきます　　2 ください　　3 あります　　4 しまいます

12　今度の 夏休みは 国へ 帰る (　　) に しました。

1 こと　　2 もの　　3 わけ　　4 ところ

-Go to the next page-

II. Circle the most appropriate word that goes in the parenthesis from the four choices given below each sentence. (Please DO NOT write the word in the parenthesis.)

(Example)

わたしは 毎朝(まいあさ) 新聞(しんぶん) (　　) 読(よ)みます。

1 が　　2 の　　3 を　　4 で

1 弟(おとうと)が りんごを 五(いつ)つ (　　) 食(た)べました。

1 と　　2 を　　3 も　　4 など

2 車(くるま)に のって (　　) いると、足(あし)が よわく なります。

1 しか　　2 ながら　　3 ぐらい　　4 ばかり

3 校長先生(こうちょうせんせい) (　　) 生徒(せいと)に じしょが わたされました。

1 が　　2 を　　3 に　　4 から

4 中学校(ちゅうがっこう)は、そのはし (　　) わたると、右(みぎ)に あります。

1 で　　2 に　　3 を　　4 が

5 夕(ゆう)べは 2時(じ)まで 本(ほん)を 読(よ)んで いたから、今朝(けさ)は (　　) 起(お)きました。

1 おそく　　2 おそくて　　3 おそくから　　4 おそくまで

6 学生(がくせい)は 先生(せんせい)の へやに (　　) ように 言(い)われました。

1 来(く)る　　2 来(き)て　　3 来(こ)い　　4 来(き)た

-Over-

7　田中さんの 話に よると、山田さんは 明日 ふじ山に (　　) そうだ。

1 のぼる　　2 のぼろう　　3 のぼった　　4 のぼるだろう

8　私は まだ 一度も ひこうきに (　　) ことが ありません。

1 のる　　2 のった　　3 のるの　　4 のったの

9　漢字の じしょの (　　) 方を 教えて 下さいませんか。

1 使い　　2 使う　　3 使って　　4 使うの

10　ちょっと 食べて (　　)、とても おいしかったです。

1 したら　　2 みたら　　3 おいたら　　4 あったら

11　プレゼントですね。じゃあ、きれいな 紙で おつつみ (　　)。

1 しましょう　　2 なりましょう　　3 あげましょう　　4 されましょう

12　しけん中は ほかの 人と (　　) いけません。

1 はなすては　　2 はなしては

3 はなさなければ　　4 はなさないでは

13　山田さんが 先生 (　　) 名前を まちがえられました。

1 に　　2 へ　　3 を　　4 は

APPENDIX G

NNS vocabulary test

Vocabulary Test

PLEASE ANSWER THE FOLLOWING BY YOURSELF. DO NOT CONSULT A GRAMMAR REFERENCE BOOK OR A DICTIONARY.

III. Circle the most appropriate meaning of the word from the four choices given below each word. (Please only choose one.)

(Example)

食(た)べる

1 drink　2 cook　3 serve　(4 eat)

1 殺(ころ)す

1 defame　2 kill　3 injure　4 damage

2 賞賛(しょうさん)する

1 appeal　2 recommend　3 applaud　4 regard

3 聞(き)こえる

1 be attentive　2 be audible　3 listen　4 hear

4 見(み)える

1 be visible　2 see　3 witness　4 be tangible

5 ほめる

1 enhance　2 praise　3 crave　4 envy

6 殺害(さつがい)する

1 assault　2 murder　3 harm　4 poison

APPENDIX H

Instruction sheet on the grammaticality judgment test

Instruction sheet on the grammaticality judgment test

Please read the following carefully.

Sentence Intuitions

Speakers of a language seem to develop a 'feel' for what is an acceptable sentence and for what is not, even in many cases where they have never been taught any particular rule.

For example, in English you may feel sentence (1) below sounds like an acceptable English sentence, while sentence (2) does not.

1) John is likely to win the race.
2) John is probable to win the race.

Although sentences (1) and (2) are of the same structure, one can judge without depending on any rule that sentence (2) is unacceptable in English. Similarly, you may feel sentences (3) and (4) both sound unacceptable.

3) Which problem do you wonder how John could solve?
4) How do you wonder which problem John could solve?

In this case, however, you may feel that sentence (3) sounds unacceptable to a lesser extent than sentence (4).

Likewise, in Japanese, you might feel that the first sentence below sounds like it is an acceptable Japanese sentence, while the second one does not.

5) John-wa Mary ni nihongo no hon-o yom-ase-ta.
6) John-wa Mary ni nihongo-o deki-sase-ta.

The set of papers provided contain Japanese sentences. There is one sentence on each sheet of paper. We would like you to tell us for each one whether you think it sounds acceptable in Japanese or not. Even native speakers have different intuitions about what is acceptable and what is not. Therefore these sentences cannot serve the purpose of establishing your level of proficiency in Japanese. We would like you to concentrate on how you 'feel' about these sentences.

Answering the Questionnaire

For the following sentences, each one of which is written on a sheet of paper, please tell us whether you feel they sound *acceptable* sentences of Japanese to you, or whether they sound like *unacceptable* Japanese sentences to you. There may be sentences which you feel are *more or less* un*acceptable*. Alternatively, there may be sentences which you feel are *more or less acceptable*. In these cases, mark *somewhat* un*acceptable* and *somewhat acceptable* respectively. Finally, there may be sentences where you have no clear feeling for whether they are acceptable or not. In this case mark

not sure. Answer one question at a time and place the sheet back in the envelope after you have marked it. Please do not refer back to sheets you have already answered.

There is no time limit: you can spend as much time on the questionnaire as needed. Read each sentence carefully before you answer. Concentrate on how you feel about the sentence. Please mark only one answer for each sentence. Make sure you have answered all 77 questions.

PLEASE COMPLETE THE QUESTIONNAIRE BY YOURSELF. DO NOT CONSULT A GRAMMAR REFERENCE BOOK OR A DICTIONARY.

[The instruction sheet for Japanese NSs is written in Japanese. It is the same as the English one except for the following changes. The paragraph concerning the English examples above is omitted. *Likewise, in Japanese* (in the paragraph on the Japanese examples) is replaced with *For example*, and the additional pair of Japanese examples below is added to illustrate a differing degree of (un)acceptability:

a) Bill-ga yonde ita hon-wa Shakespeare data.
b) Bill-ga yonde iru hon-wa Shakespeare data

Finally, the paragraph discussing level of Japanese proficiency and the last capitalized one are omitted.]

APPENDIX I

Sample grammaticality judgment sheet

1

ビルは、かわいい息子(むすこ)に殺(ころ)された。

Bill-wa kawaii musuko ni korosareta.

Acceptable **Unacceptable** **Not Sure**

Somewhat Acceptable **Somewhat Unacceptable**

Note:

かわいい：dear, 息子(むすこ)：son

APPENDIX J

List of test sentences

Note: The asterisk attached to a sentence number indicates ungrammaticality status of that sentence.

1 ビルは、かわいい息子に殺された。
Bill-wa kawaii musuko ni korosareta.
'Bill was affected by being killed by his own beloved son'

2* ビルは、かわいい息子によって殺された。
Bill-wa kawaii musuko ni yotte korosareta.
(See #1 above.)

3 ジョン・スミスは、アメリカのＣＩＡによって殺害された。
John Smith-wa America no CIA ni yotte satugai sareta.
'John Smith was murdered by the CIA'

4 メアリーちゃんは、いつも厳しいお父さんにほめられた。
Mary tyan-wa itu mo kibisii otoosan ni homerareta.
'Mary was affected by being praised by her always strict father'

5* メアリーちゃんは、いつも厳しいお父さんによってほめられた。
Mary tyan-wa itu mo kibisii otoosan ni yotte homerareta.
(See #4 above.)

6 メアリー・ジョンソンは、ジャーナリストによって賞賛された。
Mary Johnson-wa journalists ni yotte syoosan sareta.
'Mary Johnson was applauded by journalists'

7 覗き見しているところを、ビルが、ポールに見られた。
Nozokimi site iru tokoro-o, Bill-ga Paul ni mirareta.
'Bill$_i$ was (personally) affected by being seen by Paul as he$_i$ was peeping in (a room)'

8* 覗き見しているところを、ビルが、ポールによって見られた。
Nozokimi site iru tokoro-o, Bill-ga Paul ni yotte mirareta.
(See #7 above.)

9 ポールに、ビルが覗き見しているところが見えた。

Paul ni, Bill-ga nozokimi site iru tokoro-ga mieta.
'Bill$_i$ was visible to Paul as he$_i$ was peeping in (a room)'

10 メアリーと話しているところを、ジョンが、ガールフレンドに聞かれた。
Mary to hanasite iru tokoro-o, John-ga girlfriend ni kikareta.
'John was (personally) affected by being heard by his girlfriend as he was talking to Mary'

11* メアリーと話しているところを、ジョンが、ガールフレンドによって聞かれた。
Mary to hanasite iru tokoro-o, John-ga girlfriend ni yotte kikareta.
(See #10 above.)

12 ジョンのガールフレンドに、ジョンがメアリーと話しているところが聞こえた。
John no girlfriend ni, John-ga Mary to hanasite iru tokoro-ga kikoeta.
'John was audible to his girlfriend as he was talking to Mary'

13 ビルは、悪い時に友達に来られた。
Bill-wa warui toki ni tomodati ni korareta.
'Bill was (adversely) affected by his friend visiting with him at an inconvenient time'

14* ビルは、悪い時に友達によって来られた。
Bill-wa warui toki ni tomodati ni yotte korareta.
(See #13 above.)

15* ビルは、いい時に友達に来られた。
Bill-wa ii toki ni tomodati ni korareta.
'Bill was (adversely) affected by his friend visiting with him at a convenient time'

16 メアリーは、ジョギングしている時に雨に降られた。
Mary-wa, jogging site iru toki ni ame ni hurareta.
'Mary was (adversely) affected by it raining on her while she was jogging'

17* メアリーは、ジョギングしている時に雨によって降られた。
Mary-wa, jogging site iru toki ni ame ni yotte hurareta.
(See #16 above.)

18* メアリーは、ジョギングしてから雨に降られた。
Mary-wa, jogging site kara ame ni hurareta.
'Mary was (adversely) affected by it raining after she had jogged'

19 悪いことに、ビルは、ジェーンにガールフレンドからの手紙を読まれた。
Warui koto ni, Bill-wa, Jane ni girlfriend kara no tegami-o yomareta.
'Unfortunately, Bill was (adversely) affected by Jane reading a letter from his girlfriend'

20* 悪いことに、ビルは、ジェーンによってガールフレンドからの手紙を読まれた。
Warui koto ni, Bill-wa, Jane ni yotte girlfriend kara no tegami-o yomareta.
(See #19 above.)

21* 幸いなことに、ビルは、ジェーンにガールフレンドからの手紙を読まれた。
Saiwai na koto ni, Bill-wa, Jane ni girlfriend kara no tegami-o yomareta.
'Fortunately, Bill was (adversely) affected by Jane reading a letter from his girlfriend'

22 冬の寒い日の朝、ジョンは、メアリーに寝室の窓を開けられた。
Huyu no samui hi no asa, John-wa Mary ni sinsitu no mado-o akerareta.
'In the cold winter morning John was (adversely) affected by Mary opening his bedroom windows'

23* 冬の寒い日の朝、ジョンは、メアリーによって寝室の窓を開けられた。
Huyu no samui hi no asa, John-wa Mary ni yotte sinsitu no mado-o akerareta.
(See #22 above.)

24* 春のとても暖かい日の朝、ジョンは、メアリーに寝室の窓を開けられた。
Haru no totemo atatakai hi no asa, John-wa Mary ni sinsitu no mado-o akerareta.
'In the pleasant spring morning John was (adversely) affected by Mary opening his bedroom windows'

25 メアリーは、昔の彼に２時間も待たれて困った。
Mary-wa mukasi no kare ni 2-zikan mo matarete komatta.
'Mary was upset to be affected by having been waited for as many as two hours by her ex-boyfriend'

26* メアリーは、昔の彼によって２時間も待たれて困った。
Mary-wa mukasi no kare ni yotte 2-zikan mo matarete komatta.
(See #25 above.)

27* メアリーは、昔の彼に２時間も待たれてうれしかった。
Mary-wa mukasi no kare ni 2-zikan mo matarete uresikatta.
'Mary was pleased to be affected by having been waited for as many as two hours by her ex-boyfriend'

28 残念なことに、東京大学は、田中教授にやめられた。
Zannen na koto ni, Tokyo University-wa Tanaka kyoozyu ni yamerareta.
'Regrettably, Tokyo University was affected by being quit by Prof. Tanaka'

29* 残念なことに、東京大学は、田中教授によってやめられた。
Zannen na koto ni, Tokyo University-wa Tanaka kyoozyu ni yotte yamerareta.
(See #28 above.)

30* 幸いなことに、東京大学は、田中教授にやめられた。
Saiwai na koto ni, Tokyo University-wa Tanaka kyoozyu ni yamerareta.
"Fortunately, Tokyo University was affected by being quit by Prof. Tanaka'

31 この新しいコンピューターのプログラムは、ポールによって作られている。
Kono atarasii computer no program-wa Paul ni yotte tukurarete iru.
'This new computer program is being made by Paul'

32* この新しいコンピューターのプログラムは、ポールに作られている。
Kono atarasii computer no program-wa Paul ni tukurarete iru.
(See #31 above.)

33 反中国政府運動が、ダライ・ラマによって続けられている。
Han-tyuugoku-seehu-undoo-ga Dalai Lama ni yotte tudukerarete iru.
'The anti-Chinese government movement is being carried on by the Dalai Lama'

34* 反中国政府運動が、ダライ・ラマに続けられている。
Han-tyuugoku-seehu-undoo-ga Dalai Lama ni tudukerarete iru.
(See #33 above.)

35 インターネットは、世界中の人々によって使われている。
Internet-wa sekaizyuu no hitobito ni yotte tukawarete iru.
'The internet has been (being) used by people all over the world'

36 インターネットは、世界中の人々に使われている。
Internet-wa sekaizyuu no hitobito ni tukawarete iru.
'The internet is under the state affected by having been used by people all over the world'

37 問題の重要性は、国民によってよく理解されている。
Mondai no zyuuyoosee-wa kokumin ni yotte yoku rikaisarete iru.
'The importance of the issue has been fully understood by the people'

38 問題の重要性は、国民によく理解されている。
Mondai no zyuuyoosee-wa kokumin ni yoku rikaisarete iru.
'The importance of the issue is under the state affected by having been fully understood by the people'

39 ハムレットは、シェークスピアによって書かれた。
'Hamlet'-wa Shakespeare ni yotte kakareta.
'Hamlet was written by Shakespeare'

40* ハムレットは、シェークスピアに書かれた。
'Hamlet'-wa Shakespeare ni kakareta.
(See #39 above.)

41 会議が、議長によって始められた。
Kaigi-ga gityoo ni yotte hazimerareta.
'A meeting was begun by a chairperson'

42* 会議が、議長に始められた。
Kaigi-ga gityoo ni hazimerareta.
(See #41 above.)

43 ボスニアの街が、ＮＡＴＯ軍によって攻撃された。
Bosnia no mati-ga NATO gun ni yotte koogeki sareta.
'A town in Bosnia has been attacked by NATO'

44 ボスニアの街が、ＮＡＴＯ軍に攻撃された。
Bosnia no mati-ga NATO gun ni koogeki sareta.
'A town in Bosnia is under the state affected by having been attacked by NATO'

45 機密書類が、敵国のスパイによって盗まれた。
Kimitu syorui-ga tekikoku no spy ni yotte nusumareta.
'The secret documents have been stolen by a spy from the enemy country'

46 機密書類が、敵国のスパイに盗まれた。
Kimitu syorui-ga tekikoku no spy ni nusumareta.
'The secret documents are under the state affected by having been stolen by a spy from the enemy country'

47 ヨーロッパ旅行が、ビルによって計画されている。
Europe ryokoo-ga Bill ni yotte keekaku sarete iru.
'A trip to Europe is being planned by Bill'

48* ビルによって、ヨーロッパ旅行を計画されている。
Bill ni yotte Europe ryokoo-o keekaku sarete iru.
(See #47 above.)

49* ヨーロッパ旅行は、ビルが計画されている。
Europe ryokoo-wa Bill-ga keekaku sarete iru.
(See #47 above.)

50 美しい歌が、ビートルズによってたくさん作られた。
Utukusii uta-ga Beatles ni yotte takusan tukurareta.
'Many beautiful songs were made by the Beatles'

51* ビートルズによって、美しい歌をたくさん作られた。
Beatles ni yotte utukusii uta-o takusan tukurareta.
(See #50 above.)

52* 美しい歌は、ビートルズがたくさん作られた。
Utukusii uta-wa Beatles-ga takusan tukurareta.
(See #50 above.)

53 メアリーは、ジョンにいつも相談される。
Mary-wa John ni itu mo soodan sareru.
'Mary is affected by being always consulted by John'

54* メアリーは、ジョンがいつも相談される。
Mary-wa John-ga itu mo soodan sareru.
(See #53 above.)

55 ジェーンは、ビルにすっかりだまされた。
Jane-wa Bill ni sukkari damasareta.
'Jane was affected by being completely deceived by Bill'

56* ジェーンは、ビルがすっかりだまされた。
Jane-wa Bill ga sukkari damasareta.
(See #55 above.)

57 トムは、こどもに車の窓を割られた。
Tom-wa kodomo ni kuruma no mado-o warareta.
'Tom was affected by children breaking his car windows'

58* トムは、こどもが車の窓を割られた。
Tom-wa kodomo-ga kuruma no mado-o warareta.
(See #57 above.)

59* トムは、車の窓がこどもに割られた。
Tom-wa kuruma no mado-ga kodomo ni warareta.
(See #57 above.)

60 ビルは、ジェーンにその秘密を知られた。
Bill-wa Jane ni sono himitu-o sirareta.
'Bill was affected by Jane knowing the secret'

61* ビルは、ジェーンがその秘密を知られた。
Bill-wa Jane-ga sono himitu-o sirareta.
(See #60 above.)

62* ビルは、その秘密がジェーンに知られた。
Bill-wa sono himitu-ga Jane ni sirareta.
(See #60 above.)

Distractors

63 ジョンが、上手にコンピューターを使う。
John-ga zyoozu ni computer-o tukau.
'John uses a computer skillfully'

64* ジョンに、上手にコンピューターを使う。
John ni zyoozu ni computer-o tukau.
(See #63 above.)

65 ビルが、よく日本語が分かる。
Bill-ga yoku nihongo-ga wakaru.
'Bill understands Japanese well'

66 ビルには、よく日本語が分かる。
Bill ni wa yoku nihongo-ga wakaru.
(See #65 above.)

67* ビルが、よく日本語を分かる。
Bill-ga yoku nihongo-o wakaru.
(See #65 above.)

68* ビルには、よく日本語を分かる。
Bill ni wa yoku nihongo-o wakaru.
(See #65 above.)

69 ビルが、コンピューターを使える。
Bill-ga computer-o tukaeru.
'Bill can use a computer'

70 ビルが、コンピューターが使える。
Bill-ga computer-ga tukaeru.
(See #69 above.)

71 ビルには、コンピューターが使える。
Bill ni wa computer-ga tukaeru.
(See #69 above.)

72* ビルには、コンピューターを使える。
Bill ni wa computer-o tukaeru.
(See #69 above.)

73 私は、フランスの映画が見たい。
Watasi-wa France no eega-ga mitai.
'I want to see a French movie'

74* 私に、フランスの映画が見たい。
Watasi ni France no eega-ga mitai.
(See # 73 above.)

75 メアリーは、一人で静かな公園を散歩した。
Mary-wa hito-ri de sizuka na kooen-o sanpo sita.
'Mary took a walk in a quiet park by herself'

76* メアリーは、一人で静かな公園で散歩した。
Mary-wa hito-ri de sizuka na kooen de sanpo sita.
(See #75 above.)

77 会議は、1時には終わっている。
Kaigi-wa 1-zi ni wa owatte iru.
'The meeting will have been over at 1 o'clock'

78* 会議は、あと1時間で終わっている。
Kaigi-wa ato 1-zikan de owatte iru.
'The meeting will have been over in an hour'

79 ジョンは、もうその宿題をした。
John-wa moo sono syukudai-o sita.
'John has already done the homework'

80* ジョンは、まだその宿題をした。

John-wa mada sono syukudai-o sita.
'John has done the homework yet'

81 ジェーンが、子どもに本を読ませた。
Jane-ga kodomo ni hon-o yomaseta.
'Jane let her child read a book'

82* ジェーンが、子どもを本を読ませた。
Jane-ga kodomo-o hon-o yomaseta.
(See #81 above.)

83 メアリーが、小さい弟を泣かせた。
Mary-ga tiisai otooto-o nakaseta.
'Mary made her little brother cry'

84* メアリーが、小さい弟に泣かせた。
Mary-ga tiisai otooto ni nakaseta.
(See #83 above.)

APPENDIX K

Grammaticality judgment disagreements of linguistically naive NSs with a breakdown of syntactic and semantic sentence types

Table 33: Grammaticality judgment disagreements of linguistically naive NSs with a breakdown of syntactic and semantic sentence types

Sentence Types[a]	*Passive Types*[b]		
SYNTAX	*Ni yotte*	*Ni* direct	*Ni* indirect
•Proper passivization			
•*- Case absorption w/+ θ-role suppression •*- θ-role suppression w/+ case absorption			
•*- θ-role suppression			
•*+ Passivization •*- Passivization			
SEMANTICS	*Ni yotte*	*Ni* direct	*Ni* indirect
•Adversative reading •*Non-adversative reading			
•Progressive reading w/*iru*-marking •*Progressive reading w/*iru*-marking •Perfective reading w/*iru*-marking			
•Past reading w/*ta*-marking •*Past reading w/*ta*-marking •Perfective reading w/*ta*-marking			
•*Adversative reading w/*ni yotte*-marking			x x (w/tr.)
•*Personal viewpoint w/Japanese native verb	x		
•Personal viewpoint w/Japanese native verb •Objective viewpoint w/Sino-Japanese verb			
•*Personal viewpoint w/affective verb			
•Personal viewpoint w/affective verb		x	

a. The markings of + and – in the syntax and semantics columns represent the presence or absence of a relevant feature, whereas the presence or absence of the asterisk attached to each sentence type stands for its predicted grammatical and ungrammatical status.

b. Each x indicates a single occurrence of judgment disagreement with the prediction.

APPENDIX L

Grammaticality judgment disagreements of linguistically sophisticated NSs with a breakdown of syntactic and semantic sentence types

Table 34: Grammaticality judgment disagreements of linguistically sophisticated NSs with a breakdown of syntactic and semantic sentence types

Sentence Types[a]	*Passive Types*[b]		
SYNTAX	*Ni yotte*	*Ni* direct	*Ni* indirect
•Proper passivization		x	x
•*- Case absorption w/+ θ-role suppression •*- θ-role suppression w/+ case absorption	x x		
•*- θ-role suppression		x x	
•*+ Passivization •*- Passivization			x
SEMANTICS	*Ni yotte*	*Ni* direct	*Ni* indirect
•Adversative reading •*Non-adversative reading			x x (w/intr.) x (w/tr.)
•Progressive reading w/*iru*-marking	x		
•*Progressive reading w/*iru*-marking		x x	
•Perfective reading w/*iru*-marking		x	
•Past reading w/*ta*-marking			
•*Past reading w/*ta*-marking		x	
•Perfective reading w/*ta*-marking	x		
•*Adversative reading w/*ni yotte*-marking		x	x (w/intr.) x x (w/tr.)
•Personal viewpoint w/Japanese native verb		x x	
•*Personal viewpoint w/Japanese native verb			
•Objective viewpoint w/Sino-Japanese verb	x		
•*Personal viewpoint w/affective verb	x		
•Personal viewpoint w/affective verb			

a. The markings of + and – in the syntax and semantics columns represent the presence or absence of a relevant feature, whereas the presence or absence of the asterisk attached to each sentence type stands for its predicted grammatical and ungrammatical status.

b. Each x indicates a single occurrence of judgment disagreement with the prediction.

APPENDIX M

Grammaticality judgment inconsistencies of the linguistically naive NS group with a breakdown of syntactic and semantic sentence types

Table 35: Grammaticality judgment inconsistencies of the linguistically naive NS group with a breakdown of syntactic and semantic sentence types

Sentence Types[a]	*Passive Types*[b]		
SYNTAX	*Ni yotte*	*Ni* direct	*Ni* indirect
•Proper passivization			
•*- Case absorption w/+ θ-role suppression •*- θ-role suppression w/+ case absorption			
•*- θ-role suppression			
•*+ Passivization •*- Passivization			
SEMANTICS	*Ni yotte*	*Ni* direct	*Ni* indirect
•Adversative reading •*Non-adversative reading			
•Progressive reading w/*iru*-marking •*Progressive reading w/*iru*-marking •Perfective reading w/*iru*-marking			
•Past reading w/*ta*-marking •*Past reading w/*ta*-marking •Perfective reading w/*ta*-marking			
•*Adversative reading w/*ni yotte*-marking			
•*Personal viewpoint w/Japanese native verb	#		
•Personal viewpoint w/Japanese native verb •Objective viewpoint w/Sino-Japanese verb			
•*Personal viewpoint w/affective verb			
•Personal viewpoint w/affective verb		#	

a. The markings of + and – in the syntax and semantics columns represent the presence or absence of a relevant feature, whereas the presence or absence of the asterisk attached to each sentence type stands for its predicted grammatical and ungrammatical status.

b. Each # represents an occurrence of judgment inconsistency in a relevant sentence type.

APPENDIX N

Grammaticality judgment inconsistencies of the linguistically sophisticated NS group with a breakdown of syntactic and semantic sentence types

Table 36: Grammaticality judgment inconsistencies of the linguistically sophisticated NS group with a breakdown of syntactic and semantic sentence types

Sentence Types[a]	*Passive Types*[b]		
SYNTAX	*Ni yotte*	*Ni* direct	*Ni* indirect
•Proper passivization		#	
•*- Case absorption w/+ θ-role suppression •*- θ-role suppression w/+ case absorption			
•*- θ-role suppression			
•*+ Passivization •*- Passivization			#
SEMANTICS	*Ni yotte*	*Ni* direct	*Ni* indirect
•Adversative reading •*Non-adversative reading			# (w/tr.)
•Progressive reading w/*iru*-marking •*Progressive reading w/*iru*-marking •Perfective reading w/*iru*-marking		#	
•Past reading w/*ta*-marking •*Past reading w/*ta*-marking		#	
•Perfective reading w/*ta*-marking	#		
•*Adversative reading w/*ni yotte*-marking			
•Personal viewpoint w/Japanese native verb •*Personal viewpoint w/Japanese native verb			
•Objective viewpoint w/Sino-Japanese verb	#		
•*Personal viewpoint w/affective verb •Personal viewpoint w/affective verb	#		

a. The markings of + and – in the syntax and semantics columns represent the presence or absence of a relevant feature, whereas the presence or absence of the asterisk attached to each sentence type stands for its predicted grammatical and ungrammatical status.

b. Each # represents an occurrence of judgment inconsistency in a relevant sentence type.

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