The Role of Animacy in the Acquisition of Ergative Verbs
by Japanese Learners of English

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Abstract

The purpose of this study is to investigate how Japanese Learners of English (JLEs) acquire English ergative verb usages, and is to claim that difficulty of ergative verb usages in English for JLEs is due largely to the properties of sentential subject nouns. Since both Japanese (L1) and English (L2) have ergative verbs, it can be assumed that JLEs’ acquisition of intransitive and transitive usages of English ergative verbs are equally easy as long as the L1 transfer positively works. It has also been claimed in previous studies dealing with the acquisition of wh-questions and/or relative clauses that animacy of the sentential subject affects L2 learners’ correct judgement of grammaticality of sentence. Sixty-five adult JLEs with relatively low English proficiency took a grammaticality judgement task. They were asked to judge the usages of 15 ergative verbs. The results showed that (a) the JLEs have more difficulty judging the grammaticality of intransitive usages than that of transitive usages, (b) sentences with animate subjects are easier to judge correctly than those with inanimate, and (c) sentences with inanimate subjects in intransitive usages are the most difficult structures for the JLEs to judge their grammaticality correctly. Thus, the overall findings indicate that the JLEs are strongly influenced by the semantic properties of subjects that each ergative verb structure has.

1. Introduction

It has been reported that quite a few Japanese learners of English (JLEs), even learners with a high proficiency, confuse the usage of verb intransitive with those of verb transitive (Kondo & Shirahata, 2015; Oshita, 2000; Shirahata, 2015). They often produce such errors as *The pigeon was appeared from the box. Also in the judgement of grammaticality, they regard This can opened easily is grammatically wrong: It has to be revised into This can was opened easily.

Thus, this study takes up the acquisition of ergative verbs by JLEs in order to assert that JLEs’ major reason for confusion of intransitive and transitive verb usages is not due to the properties of the verbs themselves but largely to the semantic properties of sentential subjects.
That is, whether a sentential subject is an animate noun or an inanimate noun can affect JLEs’ difficulty of the acquisition of ergative verb usages.

Ergative verbs in English (e.g., break, burn and close) allow both transitive and intransitive usages (Kageyama, 1996). In this paper, the researchers will analyze the acquisition of these verbs by JLEs from the following two perspectives; (a) influence of first language (L1) transfer, and (b) influence of the semantic properties sentence subject nouns have: animate or inanimate. Verbs are important factors for constructing the sentences because they establish a relationship between syntax (structures of sentences) and semantics (meanings of sentences) (Dixon, 2005; Kageyama, 2002). Therefore, learning and teaching verb usages can be one of the most important things for L2 learning.

Let us briefly explain the organization of this paper. After introducing the purpose of the paper in Section 1, we will explain linguistic properties of ergative verbs, some previous studies on L2 acquisition of ergative verbs, issues of L1 transfer, and animacy of subject nouns in Section 2. Then, the experiment in this study is presented in Section 3. Results and discussion are shown in Section 4. Finally, our conclusions and application of the results to teaching English in Japan will be presented in Section 5.

2. Research Background

2.1 Ergative Verbs

According to the transitivity and intransitivity distinctions, English verbs can roughly be classified into three types as presented in (1). A verb type of (1c) is called ergative verbs (Burzio, 1986).

(1) Classification of English verbs
(a) verbs functioning mainly as a transitive verb (e.g., destroy and bring)
(b) verbs functioning mainly as an intransitive verb (e.g., arrive and walk)
(c) verbs used as both transitive and an intransitive (e.g., begin and close)

(adapted from Kagayema, 1996, with some modifications)

Look at the examples of ergative verbs in detail. In (2), we show usages of break, one of the English ergative verbs. A DP indicates a determiner phrase such as for example the chair. (2a) presents a transitive usage of the verb. A thematic role of a subject noun used with a transitive verb is Agent, so usually living things, in particular human beings (e.g., John), are subjects. On the other hand, (2b) presents an intransitive usage. In this case, a thematic role of a subject noun in the intransitive usage of ergative verbs is Theme or Patient, so normally non-living things (e.g., chair) are subjects.

Like English, Japanese has ergative verbs, and their linguistic behaviors are the same as
those of English. That is, in transitive usages, the subject nouns are living things while in intransitive usages, the subjects are usually non-living things. However, Japanese transitive forms in ergative verbs are slightly different from their intransitive forms: *kowa-su* (transitive)/*kowa-ru* (intransitive) for *break*, as examples in (3a) and (3b) show. *Nom* indicates a nominative case, and *Acc* indicates an accusative case. Based on these linguistic backgrounds, this study will examine how morphemes that attach to Japanese ergative verb endings and the animate and inanimate distinctions of subject nouns affect JLEs’ acquisition of English ergative usages.

(2) a. John broke the chair. (transitive usage: DP-V-DP structure)  
    b. The chair broke. (intransitive usage: DP-V structure)

    John-Nom chair-Acc broke  
    ‘John broke the chair.’

b. Isu-ga kowa-re-ta (intransitive usage: DP-V structure)  
    chair-Nom broke  
    ‘The chair broke.’

With regard to the acquisition of verb transitive and intransitive usages, a majority of L2 studies have focused on the acquisition of unaccusative verbs because these verbs have been claimed to have some acquisitional problems (e.g., Balcom, 1997; Hirakawa, 2006; Ju, 2000; Kondo, Otaki, Suda & Shirahata, 2016; Oshita, 2000; Yusa, 2003). However, there are only a few studies that have dealt with the acquisition of ergative verbs. Moreover, even the L2 studies investigating the acquisition of ergative verbs (e.g., Kondo, 2009; Matsunaga, 2005; Montrul, 2000) have mainly focused on the acquisition of intransitive verb usages. For this reason, the researchers believe that it is worth conducting an experiment to examine JLEs’ acquisition of both transitive and intransitive usages of ergative verbs with both an animate subject and an inanimate subject.

2.2 Influence of L1 Transfer

In L2 acquisition, it is claimed that learners’ L1 can influence L2 development (White, 2003). According to the Contrastive Analysis Hypothesis (CAH), linguistic items which are not present in the L2 learner’s L1 are difficult to learn, while linguistic items which are present or similar equivalents are easy to learn (Lado, 1957). If this logic is applicable to JLEs’ acquisition of English ergative verbs, they are likely to have little difficulty acquiring them because of positive transfer from Japanese ergative equivalents. As discussed in subsection 2.1, Japanese has the same kind of ergative verbs as English has, since transitive and intransitive forms have the same base forms (compare (2) and (3) above). If JLEs notice that Japanese and English ergative verbs share
the same base form, and then, simply transfer linguistic properties of Japanese ergative verbs to English ones, it is more likely that they display a clearer understanding of English ergative verb usages.

However, no previous studies with JLEs have shown that the CAH-based positive L1 transfer facilitates JLEs’ acquisition of English ergative verbs (Kondo, 2009; Matsunaga, 2005). Rather, the results from these studies emphasize the influence of negative L1 transfer in terms of verb morphology. Montrul (2000), which does not necessarily focus on JLEs’ acquisition of English ergative verbs, argues that Spanish learners of English (SLEs) have difficulty accepting the English ergative verbs with an intransitive usage, e.g., *The window broke*. They rather accept sentences like, e.g., *The window got broken*. Montrul (2000) explains that intransitive verbs in Spanish are marked by an overt morpheme *se*, whereas English intransitive verbs are not marked by any overt morpheme. Thus, for example, *The window broke* sounds awkward for SLEs since they feel that something is needed in place of *se*; they choose *got* as an equivalent of *se*.

If L1 verb inflection interferes in the L2 acquisition of English ergative verbs, it can also be difficult for JLEs to acquire the usages of English ergative verbs because Japanese ergative verbs are intransitively and transitively inflected differently, while English ergative verbs have the same word formation for both transitivity and intransitivity. Although Matsunaga (2005) and Kondo (2009) separately examined the acquisition of English ergative verbs by JLEs, both of them paid attention to JLEs’ overuse of passive forms in the intransitive structures. That is, they focused on the influence of negative L1 transfer by analyzing the morphological domain of ergative verbs.

Matsunaga (2005) had both JLEs and SLEs answer whether active forms and passive forms of intransitive sentences were grammatically acceptable. The results showed that the lower proficiency groups of JLEs erroneously tended to reject a correct use of an ergative verb in an intransitive structure, e.g., *The chair broke*. These JLEs tended to prefer, e.g., *The chair was broken* to *The chair broke*. On the contrary, SLEs did not show this tendency. Then, Matsunaga (2005) concluded that one of the derivational patterns in Japanese intransitive structures, i.e., de-causativization (-ar- for *uv-ar-u*, (= be planted)), which does not exist in English and Spanish, leads to the JLEs’ overuse of passive forms in English ergative equivalents. However, although there are two types of derivational patterns in Japanese intransitive structures, de-causativization and anti-causativization, Matsunaga (2005) did not explain why JLEs only transferred de-causativization.

From a different point of view, Kondo (2009) conducted her experiments and tried to analyze the influence of Japanese (L1) morphological patterns in the acquisition of English (L2) verbs. She focused on the morphological similarities between Japanese passive forms and some Japanese ergative verb forms. In Japanese, we usually use a morphological form -e- when we make a passive form. For example, *Atarashii ie-ga taterar-e-ta (= A new house was built)*. Thus, when Japanese L1 speakers hear *Mado-ga kowar-e-ta (= The window broke)*, some of them may regard it as passive. If this claim is valid, JLEs would have trouble interpreting verbs with an -e-
morpheme. But, on the other hand, it could also be said that they would not have any difficulty interpreting English sentences with the other ergative verbs which do not have a morpheme -e-. Based on the discussions made in this section, a following prediction can be proposed. This is Prediction 1.

(4) Prediction 1: Influence of syntactic structure

If the properties of Japanese (L1) ergative verbs can map successfully to those of English (L2) equivalents, JLEs would have little difficulty understanding English ergative verb usages. Thus, both transitive and intransitive usages of these verbs are equally attainable for JLEs.

2.3 Influence of Animacy on Subject Nouns

Ikeuchi (2010) states that one of the traces from primitive human languages is that a thematic role of Agent has normally been placed at the initial position of a sentence, which is usually a subject position (see also Jackendoff, 2002). More precisely, a common relationship between a thematic role and a grammatical position is that a subject plays as an Agent (subject/Agent), and an object plays as a Theme (object/Theme) (Becker, 2014; Dowty, 1991). Thus, such sentences as e.g., John ate sushi and John-ga suhi-o tabe-ta can be said to be the most common word order from both syntactic and semantic viewpoints. Thus, if this hypothesis of human languages is true, it is assumed that this “Agent-V-Theme” type of sentence is easy for human beings to produce and understand. Hence, it can also be assumed that this word order is easy for any language learner to acquire.

When a thematic role of subject is Agent, the subject must do something related to a verb action. Hence, it is living things, in particular human beings that actively behave according to verb meanings. Thus, it is natural that living things should be placed in the subject position, while non-living things may be placed in the object position. Then, whether a subject is animate or not should be important for language learners to judge the grammaticality of the sentence.

(5) The potentiality of agency scale

Likelihood of functioning as transitive agent

(adapted from Dixon, 1979, p.85, with some modifications)

Silverstein (1976) originally proposed a noun hierarchy of agency. Then, Dixon (1979) modified it. The diagram in (5) shows that animate nouns, in particular personal pronouns (e.g., I, we, you, she, etc.) are most likely to be subject/Agent. In contrast, inanimate nouns (e.g., pen and
Chair) are least likely to be subject/Agent (see also Becker, 2014; Tsunoda, 2009). Some languages including Japanese prefer animate nouns for sentential subjects to inanimate nouns. Thus, when inanimate nouns are in subject position, the grammar of the sentence becomes uncomfortable or unacceptable for these language speakers. As a result, it has been reported that native speakers of Japanese most often feel that sentences with a subject/inanimate and an object/animate are odd sounding (Tsunoda, 2009). For example, Oonami-ga watashi-o saratta (= A big wave swept me off) sounds awkward for L1 Japanese speakers because the subject Oonami (= a big wave) is an inanimate noun.

It has been found that animacy plays a crucial role in other areas of L2 acquisition. For relative clauses, Omaki and Ariji (2005); for wh-questions, Shirahata et al. (2016); for intransitive verbs, Kondo, Otaki, Suda and Shirahata (2015). For example, as for acquisition of intransitive verbs by JLEs, Kondo et al. (2015) propose that animacy can be a factor for overuse of the passive form in intransitive (i.e., unaccusative) verb usages. In their experiment, they divided the test sentences into active (DP-V structure) and passive forms (*DP-be+en structure). Both forms included animate and inanimate subjects. The results show that when the subject of a sentence is an inanimate noun, quite a few JLEs with a low English proficiency tend to reject a correct active form and accept an incorrect passive form. On the other hand, they correctly accept a grammatically correct active form when the subject of a sentence is an animate noun.

The influence of animacy found in L2 acquisition has also been reported for L1 acquisition. It has been observed that children under 5 years old use the information of animacy as a cue to interpret sentences (Becker & Schaeffer, 2013; Scott & Fisher, 2009). For example, Scott & Fisher (2009) report that two-year old children (L1 English) were able to infer that the animate subjects of intransitive sentences with novel verbs (i.e., meanings are unknown) were likely to be Agents, whereas the inanimate subjects were less likely to be Agents but a Theme or Patient.

If these findings are valid, we can predict that animacy of the subjects should also affect JLEs’ correct interpretation of grammaticality in English ergative verb sentences. Thus, the researchers’ second prediction is as follows.

(6) Prediction 2: Influence of semantic properties

If animacy of the subject influences JLEs’ acceptability of the grammaticality in English ergative verb sentences, they will judge that a sentence with an animate subject is grammatical, which results in a correct judgement. On the other hand, they will judge that a sentence with an inanimate subject is ungrammatical, which results in a wrong judgement. Thus, sentences with [+animate] subject nouns are easier for JLEs to correctly judge grammaticality than those with [-animate] subject nouns.

In the following section, we will examine our two research predictions: Prediction 1 and Prediction 2, by conducting an experiment with adult JLEs.
3. Experiment

3.1 Participants

Sixty-five adult JLEs participated in the experiment. They were all university undergraduates (48 freshmen and 17 sophomore) in Japan who had studied English for a minimum of six years at school. Their majors covered a wide range of academic fields: education, agriculture, science, social science. Generally speaking, their English proficiency levels were found to be between elementary and lower intermediate according to the results of the Oxford Quick Placement Test (OQPT) (2001) (Mean scores: 26.22 out of 40, SD: 3.43). The results of OQPT are presented in Table 1.

<table>
<thead>
<tr>
<th>Results of OQPT</th>
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<tbody>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>------</td>
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<tr>
<td>Score</td>
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</tbody>
</table>

3.2 Materials and Procedures

**Ergative verbs tested in this study.** Fifteen ergative verbs were selected as target verbs. They all commonly feature in junior high school English textbooks. The researchers used *The English Vocabulary Lists Learned at Junior High School* (Kairyudo, 2012) to select the ergative verbs. They are presented in (7a). The researchers also created distractor sentences. There were nine transitive verbs, eight unaccusative verbs and nine unergative verbs in total. These verbs are shown in (7b-d).

(7) Verbs tested in this experiment.

- a. Ergative verbs (target verbs): *begin, burn, close, decrease, drop, dry, grow, increase, mix, open, roll, separate, start, stop, turn*
- b. Transitive verbs (distractors): *destroy, bring, introduce, hate, respect, use, know, select, damage*
- c. Unaccusative verbs (distractors): *appear, arrive, come, die, fall, occur, stand, bloom*
- d. Unergative verbs (distractors): *cough, cooperate, despair, dive, depend, laugh, listen, wrestle, tremble*

**Preliminary task: A vocabulary translation task.** Prior to conducting our main experiment, a vocabulary translation task was carried out to exclude participants who did not know the meanings of the ergative verbs tested. The participants were asked to translate the meanings of the 15 English ergative verbs into Japanese. The results showed that 65 JLEs all
passed the vocabulary translation task and were qualified as participants.

**Main task: A grammaticality judgement task.** The researchers had the participants complete a set of grammaticality judgement task (GJT). The task design was adapted from Kondo and Shirahata (2014) with some modifications. That is to say, in addition to the method used in Kondo and Shirahata. (2014), the researchers added a section with brackets in which the participants were able to revise the test sentence when they answered that the sentence was ungrammatical. Also, the researchers excluded “Not sure” from the answer choices since it was difficult for the researchers to define the grammatical knowledge of the participants who choose “Not sure”.

There are four different types of test questions. They are Type A: [+transitive] and [+animate subject], Type B: [+transitive] and [-animate subject], Type C: [+intransitive] and [+animate subject] and Type D: [+intransitive] and [-animate subject]. See Table 2 with some example sentences.

Table 2.
**Four Types of Test Sentences**

<table>
<thead>
<tr>
<th>Type</th>
<th>Sentence Type</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>[+intransitive] &amp; [+animate subject]</td>
<td>Mary and Tom separated 10 years ago.</td>
</tr>
</tbody>
</table>

These four different types of questions were tested for 15 ergative verbs. Thus, there were 60 test questions (4×15) which are all grammatically correct sentences. In addition, the test had 100 distractors (33 grammatical sentences and 67 ungrammatical sentences). In total, there were 160 sentences altogether. Since there were as many as 160 test sentences, the examiner gave 80 test sentences for the first week, and then the rest of the task for the second week.

Two examples of the GJT are provided in (8) for an intransitive usage and (9) for a transitive usage. The test consisted of a context sentence written in Japanese and a test sentence written in English. The participants were asked to judge whether the underlined part of each test sentence was grammatically correct. If they choose “Incorrect”, they were asked to revise the original test sentence into what they believed to be correct.

The participants completed the task within 40 minutes for each test session even though no time limitation was provided. In addition, the examiner instructed the participants not to go back to the test sentences they had already answered in order for them not to use their metalinguistic knowledge on ergative usages.
(8) An example of an intransitive test sentence
   a. Context sentence: I bought a can opener because I wanted to open the can. As a result,
      (written in Japanese: Kanzume-o aketa node kankiri-o katte kimashita. Sono kekka,)
   b. Test sentence: The can opened easily.

(9) An example of a transitive test sentence
   a. Context sentence: Mary felt hot because she had closed the window for a long time. So,
      (written in Japanese: Mary-wa choojikan heya-o shimekite atsukatta desu. Nanode,)
   b. Test sentence: Mary opened the window.

3.3 Scoring and Data Analysis

The participants’ answers were all tabulated by giving one point for the correct answer and zero for the incorrect one. Since all 60 test sentences were grammatically correct, answering correctly means choosing “Correct” and answering incorrectly means choosing “Incorrect”. Thus, the maximum score of the test sentences with 15 ergative verbs was 60.

In order to examine our two predictions, paired t tests were administrated for the mean score. In addition, a two-way repeated measures of analysis of variance (ANOVA) was conducted for the mean score in order to see if four types of test sentences were statistically different; Syntax ([+Transitive] and [+Intransitive]) × Animacy ([+Animate] and [-Animate]) were within-participant variables. An alpha level of .05 was used in this study.

4. Results and Discussion

4.1 Results of Prediction 1

Let us first consider our results from the perspective of Prediction 1. It states that if the properties of Japanese (L1) ergative verbs can map successfully to those of English (L2) equivalents, JLEs would have little difficulty understanding English ergative verb usages. Thus, both transitive and intransitive usages of these verbs are equally attainable for JLEs.

Table 3 shows the test results of transitive and intransitive usages. They show that the score of transitive usages is 26.71 (SD = 2.95) while that of intransitive usages is 21.09 (SD = 4.00), which shows over 5 points difference between the two. The result of a paired t test has also revealed a statistically significant difference between these two usages (t (64) = 9.12, p < .001, d = 1.60). That is, the JLEs had more difficulty interpreting intransitive usages than transitive usages. Thus, Prediction 1 is rejected. This result indicates that the JLEs do not necessarily make use of the properties of Japanese ergative equivalents. We must look for a different reason to determine JLEs’ difficulty interpreting the grammaticality of ergative verb structures correctly.
4.2 Results of Prediction 2

Let us consider Prediction 2. It states that if animacy of the subject influences JLEs’ acceptability of the grammaticality in English ergative verbs, they will judge that a sentence with an animate subject is grammatical, which results in a correct judgement. On the other hand, they will judge that a sentence with an inanimate subject is ungrammatical, which results in a wrong judgement. Thus, sentences with [+animate] subject nouns are easier for JLEs to judge grammaticality than those with [-animate] subject nouns.

Table 4 shows means and SD of correct answers from the perspective of [+animate] of the subject nouns. The mean score of sentences with [+animate] subject nouns is 25.37 (SD = 2.61) while the mean score of sentences with [-animate] subject nouns is 22.43 (SD = 3.80). The result of a paired t test has revealed a statistically significant difference between sentences with [+animate] subject nouns and those with [-animate] subject nouns (t (64) = 5.64, p < .001, d = 0.89). Thus, English ergative sentences with a [-animate] subject noun is more difficult than those with a [+animate] subject noun. These results indicate that there is an influence from the animacy of the subject nouns when JLEs interpret grammaticality of ergative verb usages in English. That is, the JLEs had more difficulty interpreting sentences with [-animate] subject nouns than those with [+animate] subject nouns. Thus, Prediction 2 is supported.

To be more specific, let us further look at the results from intransitive usage and transitive usage respectively. Let us first examine the results of transitive usages. Table 5 shows mean and SD of the four types. Figure 2 visually presents the mean scores of these types. Mean score of Type A is 13.37 (SD = 1.58), Type B is 13.34 (SD = 1.99), Type C is 12.00 (SD = 1.79), and
Type B is 13.37 (SD = 1.58). The mean score of Type D is the lowest among the four. The results suggest that there have been statistically significant main effects of Syntax ([+Transitive] and [+Intransitive]) (F (1, 64) = 83.16, p < .001, η² = .57), and Animacy ([+Animate] and [-Animate]) (F (1, 64) = 31.79, p < .001, η² = .33). There has also been a significant interaction between transitive/intransitive usages and [+ animate] subject nouns (F (1, 64) = 58.06, p < .001, η² = .48). In fact, a simple main effect of [+animate] and [-animate] of the subject nouns was significant in intransitive usages (F (1, 64) = 59.27, p < .001, η² = .48), but not in transitive usages (F (1, 64) = 0.01, p = .90, η² = .00). These results suggest that in intransitive usages of ergative verbs, the JLEs have more difficulty interpreting sentences with [-animate] subjects than with [+animate] subjects.

As far as the results of transitive usages of ergative verbs are concerned, it can be said that the Potentiality of Agency Scale proposed by Dixon (1979) shown in (5) does not match the results in this study. This is because no significant difference was found between the mean scores of sentences with [+animate] subject nouns (Type A) and those with [-animate] subject nouns (Type B). One possible explanation is that, differing from such nouns as for example desk, chair or rock, [-animate] subject nouns we used for Type B (e.g., our company, the farm, the accident and the U.S. bomber) might be regarded as if they were [+animate] subject nouns by the JLEs. People imagine the existence of human beings working and acting behind these verbs.

Table 5.

<table>
<thead>
<tr>
<th>Type</th>
<th>Transitive</th>
<th>Intransitive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>[+animate] A</td>
<td>13.37</td>
<td>1.58</td>
</tr>
<tr>
<td>[-animate] B</td>
<td>13.34</td>
<td>1.99</td>
</tr>
</tbody>
</table>

Note: The maximum score per each Type is 15.

Figure 2. Mean scores of four types of test sentences
On the other hand, in intransitive usages, we have observed that there is a differential difficulty of grammatical judgement between the sentences with [+animate] (Type C) and [-animate] subject nouns (Type D). That is, it is more difficult for the JLEs to judge grammaticality of the sentences with [-animate] subject nouns than those with [+animate] subject nouns in the intransitive structures. This indicates that animacy of subject nouns can influence JLE’s correct interpretation of intransitive structures. Although a thematic role on subject is Theme or Patient in intransitive usages, as long as a subject noun is animate (human beings), the JLEs were able to judge the grammaticality of the sentences correctly.

We will consider why Type D showed the lowest score among the four types. The researchers have analyzed the patterns of the JLEs’ responses in Type D. Let us first look at Table 6, which shows the overall results of Type D. It indicates that although 60.6% (591/975) of the JLEs’ answers were correct, 39.4% (384/975) of them were incorrect. Then, in Table 7, we present the JLEs’ revised patterns of incorrect responses for Type D with some examples. It tells us that 35.7% (348/975) of the JLEs’ answers were the revision to passive forms (DP-be-Ven structure), while only 3.6% (36/975) of them were other types such as the one which the JLEs completely changed structures of sentences tested to other syntactic structures (e.g., DP-V-PP structure).

Table 6.
Results of Type D ([+Intransitive] & [-Animate])

<table>
<thead>
<tr>
<th></th>
<th>Numbers</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct</td>
<td>591</td>
<td>60.6%</td>
</tr>
<tr>
<td>Incorrect</td>
<td>384</td>
<td>39.4%</td>
</tr>
<tr>
<td>Total</td>
<td>975</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Table 7.
Revised Patterns of Incorrect Responses for Type D ([+Intransitive] & [-Animate])

<table>
<thead>
<tr>
<th>Patterns</th>
<th>Numbers</th>
<th>%</th>
<th>Examples of revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP-be-Ven</td>
<td>348</td>
<td>35.7%</td>
<td>The can was opened easily.</td>
</tr>
</tbody>
</table>
| *DP-V                     | 15      | 1.5% | *Dry paper burn easily.  
| (semantically incorrect tense) |        |      | (test sentence: Dry paper burned easily.)                    |
| DP-V-PP                   | 10      | 1.0% | The big rock rolled on slowly.                            |
|                           |         |      | (test sentence: The big rock rolled slowly.)                  |
| DP₁-V₁ → DP₁-V₂           | 6       | 0.6% | The first class starts at 7 o’clock.                        |
|                           |         |      | (test sentence: The first class begins at 7 o’clock)               |
| *Did not revise           | 5       | 0.5% | (Did not revise the answer)                                  |
| Total                     | 384     | 39.4%|                                                            |
That is, quite a few JLEs thought that the test sentences were ungrammatical and they should be revised to passive forms. For example, many JLEs judged that, e.g., *The can opened easily* was ungrammatical and they revised the sentence to *The can was opened easily*.

These JLEs may have interpreted that [-animate] subject nouns (the can, the big rock, and dry paper in this experiment) with an intransitive usage were not able to initiate a verb action by themselves. They may have thought that the nouns should be required to have an external subject. Thus, e.g., *Someone opened the can easily* or *The can was easily opened (by someone)* is grammatically better than *The can opened easily*. The researchers believe that this is the main reason why 35.7\% of JLEs’ answers were the revision of the sentences to passive forms.

As discussed above, some previous studies have analyzed the causes of L2 learners’ overuse of passive forms in intransitive usages from the perspective of L1 morphological transfer (Kondo, 2009; Matsunaga, 2005; Montrul, 2000). However, the findings from the present study indicate that animacy of the subject nouns must be a major factor for JLEs to cause overuse of passive forms in intransitive usages. Therefore, we would like to conclude that animacy of the subject noun in ergative verb usages is influential on JLE’s interpretation of ergative verb usages. Moreover, it can also be said that the JLEs are more influenced by intransitive usages of ergative verbs than that of transitive usages.

### 4.3 Pedagogical Implications for Teachers

From the findings discussed above, the researchers would like to suggest that teachers of English need to know the following issues. First, when they teach newly introduced English verbs to their students, they should emphasize not only their Japanese translations but also how the verbs are syntactically and semantically used, whether they are transitive verbs, intransitive verbs or double used verbs. In addition, the teachers should teach verb usages by demonstrating some example sentences with both [+animate] and [-animate] subject nouns. What the researchers emphasize here is that teaching the Japanese translation of verbs is not sufficient.

Second, teachers need to recognize that JLEs have more difficulty acquiring the grammatical usages of intransitives than those of transitives. Thus, when JLEs encounter ergative verbs during English lessons, teachers should emphasize the usage of intransitive with ergative verbs more than that of transitive.

Third, teachers need to know that JLEs have more difficulty in interpreting [-animate] subject nouns than those with [+animate] subject nouns. In particular, they should pay careful attention to dealing with intransitive usages with [-animate] subject nouns. In other words, they should know JLEs with a low English proficiency are affected by the semantic information of subject nouns when interpreting an ergative verb structure.

Finally, teachers should know that the structure, “Subject ([+animate noun]) + Vt + Object ([±animate noun])” is the most common structure in human languages, and it is easy for any
language learners to understand and acquire. Other structures such as “Subject ([animate noun]) + Vi” are less easy for language learners to understand and acquire.

5. Conclusion

This study has attempted to clarify which was a major factor for JLEs to acquire English ergative verb usages, L1 syntactic transfer or semantic properties of subject nouns. The results have shown that JLEs were not so much affected by L1 syntactic transfer. They have difficulty judging grammaticality of intransitive usages correctly than that of transitive usages. Furthermore, the results showed that animacy of sentential subjects can be the most influential factor in the acquisition of ergative verbs. In particular, the JLEs found it difficult to interpret the syntactic structures with [-animate] subject nouns correctly. Moreover, animacy of the subject nouns in intransitive usages influences the JLE’s interpretation of ergative verb usages. We have found that sentences with [-animate] subject nouns in intransitive usages were the most difficult type to interpret among the four.

In order for the researchers to advance this study a step forward, they should take the following issues into account. First, it is necessary for them to analyze the results of 15 individual verbs to know whether JLEs have more difficulty interpreting sentences with some ergative verbs than others. Additionally, the researchers are expected to examine what properties of animacy in individual subject nouns affect the results obtained from this study. Third, since English proficiency of the participants in this study was not very high, it is open to question how JLEs with a high proficiency judge the test sentences used in the study. Some of these analyses are already under way.

Note

1. As an example, Montrul (2000, p.234) shows a following Spanish sentence with an intransitive usage. REFL is an abbreviation of reflexive clitic.

   El barco se hundió. (= ‘The ship sank.’)

   the ship REFL sank

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The researchers have shown ergative verb usages, L1 syntactic transfer or semantic properties of Vi language lea following issues into account. The ship REFL usage. As an example, others. Additionally, a

The researchers with verbs to know intransitive usages influences structures acquisition of ergative verbs. The results show that animacy of sentential subjects is an abbreviation of refl type. Some of these analyses are

First, they have taken the syntactic approach. Moreover, examine what difficulty of the participants in this study. to advance this correct. Furthermore, this study. A semantic approach to English grammar: Oxford University Press.


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