Two Types of Zi-Verbs in Japanese* 

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1. Introduction

Japanese reflexive words like zibun and zibun-zisin have drawn a great deal of attention over the past thirty years. Most researchers have investigated how these reflexive words establish a referential relation to a particular NP. In this respect the research on reflexive words in Japanese has had a large influence toward a better understanding of reflexivity in general, especially concerning the cross-linguistic typology of reflexives.

Little explored yet, however, are reflexive verbs that contain the reflexive morphemes zi- or ziko-, such as zi-man-suru 'boast (about) oneself', zi-ritu-suru 'establish oneself', and ziko-syookai-suru 'introduce oneself'. These verbs are assumed to bear intrinsic reflexivity. This paper will examine a set of reflexive verbs with the reflexive morpheme zi-, which we shall call zi-verbs, focusing on their syntactic characteristics. After demonstrating the reflexivity of zi-verbs, we will argue that there are at least two types of zi-verbs, and that one of these types exhibits the unaccusative property while the other type displays a property similar to the inalienable possession construction.1 While a large portion of our discussion will be of a descriptive nature, we will briefly consider how a language marks intrinsic reflexivity from a typological point of view.

2. Two Types of Zi-Verbs

The reflexive morpheme zi- is combined with a Sino-Japanese base. The reflexive morpheme and a base together form a verbal noun, and the complex is suffixed by the verb suru 'do' to form a predicate. Some examples of zi-verbs are given in (1), and sentences with these zi-verbs are illustrated in (2–5).

(1) zi-man-suru 'boast (about) oneself'
    zi-san-suru 'praise oneself'
    zi-ritu-suru 'establish oneself'
    zi-tyoo-suru 'laugh at oneself'
    zi-kyoo-suru 'confess oneself'
    zi-ai-suru 'love oneself'
    zi-ten-suru 'revolve around oneself'
zi-haku-suru  'confess oneself'
zi-nin-suru  'admit oneself'
zi-syu-suru  'turn oneself in'
zi-satu-suru  'kill oneself'
zi-sei-suru  'control oneself'
zi-kai-suru  'demolish oneself'
zi-baku-suru  'explode oneself'

(2) Taroo-ga rippa-ni zi-ritu-sita.
    Taro-Nom finely self-established
    'Taro established himself well.'

(3) Sono tatemono-wa totuzen barabara-ni zi-kai-sita.
    that building-Top suddenly into-pieces self-demolished
    'That building suddenly demolished (itself) into pieces.'

(4) Hannin-ga hankoo-o zi-kyoo-sita.
    criminal-Nom crime-Acc self-confessed
    'The criminal confessed (his) crime.'

(5) Ziroo-ga ayamati-o zi-nin-sita.
    Jiro-Nom mistake-Acc self-admitted
    'Jiro admitted (his) mistake.'

The reflexive morpheme zi- and the Sino-Japanese base are both bound morphemes, as illustrated in (6).

(6a) *man-suru  'boast'
    *ritu-suru  'establish'
    *nin-suru  'admit'
    *kyoo-suru  'confess'
    *satu-suru  'kill'

(6b) *Taroo-ga zi-o satu-sita.
    Taro-Nom self-Acc killed
    'Taro killed self.'
As (6a) shows, Sino-Japanese bases cannot be considered as complete verbal forms without the reflexive morpheme zi-, nor can zi- stand by itself, as (6b) and (6c) illustrate. Furthermore, zi- cannot be directly combined with the verb suru, as in (6d). So, we assume that the combination of zi- and a Sino-Japanese base is not further analyzable and hence constitutes a single verb.

2.1. Reflexivity of Zi-Verbs

Detailed investigations of zi-verbs, to the best of our knowledge, have not been made. Like the reflexive pronoun zibun, however, the morpheme zi- clearly serves as a reflexive element in a sentence. Consider the following celebrated sentence that Howard and Niyekawa-Howard (1976) originally discussed.

(7) Tarooi-wa Hanakoj-ga zibun-no heya-de zibun-no sigoto-o siteita-to itta.
Taro-Top Hanako-Nom self-Gen room-in self-Gen work-Acc said

‘Taro said that Hanako was doing his work in his room.’
‘Taro said that Hanako was doing her work in her room.’
*‘Taro said that Hanako was doing his work in her room.’
*‘Taro said that Hanako was doing her work in his room.’

(7) shows that when there is a multiple occurrence of zibun, the selection of the antecedent cannot be random; rather, the two occurrences of zibun must be interpreted as coreferential.²

A similar phenomenon is observed in the following contrast.³

(8) Hanakoj-wa Tarooj-ga zibun,ij-dake-o
Hanako-Top Taro-Nom self-only-Acc
tayori-ni-siteiru  koto-o  mitomeiteiru.
rely  that-Acc  acknowledge

‘Hanako, acknowledges that Taro only relies on her/himself.’

(9)  Hanako-i-wa  Taro-ga  zibun-j-dake-o
Hanako-Top  Taro-Nom  self-only-Acc
tayori-ni-siteiru  koto-o  zi-nin-siteiru.
rely  that-Acc  self-acknowledge
‘Hanako, self-acknowledges that Taro only relies on her/himself.’

(8) and (9) are minimally different as to the type of matrix verb. The matrix verb in each of these sentences bears very similar meaning, but the verb in (9) is a zi-verb. When a zi-verb is involved, the ambiguity is not observed in the interpretation of zibun, unlike the case in (8). That is, the presence of a zi-verb in (9) restricts the interpretation of zibun in a manner that is not radically different from the case with multiple zibun in (7). Thus, the role that the zi-verb plays in (9) is parallel to that of the multiple zibun in (7), and zi- in zi-verbs indeed bears a reflexive element.

When we focus on zi-verbs, we notice that they are not homogeneous in their syntactic behavior. We will demonstrate in the next subsection that there are several reasons to distinguish between two classes of zi-verbs.

2.2 Unaccusative Zi-Verbs

The first class we take up is a group of zi-verbs which we will analyze as having unaccusative properties, and hence we will call them unaccusative zi-verbs. An unaccusative verb is an intransitive verb whose sole argument is the direct object at an underlying level of representation (Burzio 1986, Perlmutter 1978). This group of verbs has been claimed to have the following characteristics: the single argument that is subcategorized for by an unaccusative verb is underlyingly the direct object, and for the purpose of receiving an abstract case, the underlying object is moved to the subject position (Burzio 1986, Miyagawa 1989). The other group of intransitive verbs is nonergative, and the sole argument associated with this group of verbs is always the subject at underlying and surface levels of representation. The intransitive status of what we call unaccusative zi-verbs is illustrated in (10–12).
The contrast between the grammatical and ungrammatical sentences in these examples indicates that these zi-verbs cannot take a direct object and hence are intransitive verbs.

Next, we will demonstrate the unaccusative properties of this class. To this end we will apply three diagnostic tests for unaccusativity to this class of zi-verbs. First, Tsujimura (1990) shows that resultative attributes in Japanese are predicated of direct objects, just as in English as discussed by Simpson (1983) and by Levin and Rappaport Hovav (1995). For example,
consider the examples in (13), focusing on the interpretation of the underlined resultative attributes.

(13a)  
\[
\text{Tomoko-ga} \quad \text{kuruma-o} \quad \text{akaku} \quad \text{nutta.}
\]  
\[
\text{Tomoko-Nom} \quad \text{car-Acc} \quad \text{red} \quad \text{painted}
\]  
'Tomoko painted her car red.'

(13b)  
\[
\text{Ziroo-ga} \quad \text{pan-o} \quad \text{makkuro-ni} \quad \text{yaita.}
\]  
\[
\text{Jiro-Nom} \quad \text{bread-Acc} \quad \text{black} \quad \text{toasted}
\]  
'Jiro toasted the bread black.'

The resultative attributes in these examples are predicated of the direct object. The sentence in (13a), for example, means that Tomoko painted the car and as a result the car became red. The object orientation of the resultative interpretation is observed in (13b) as well.

Verbs that have been considered unaccusative such as nobiru ‘lengthen’ and yakeru ‘get toasted’, on the other hand, appear to have a subject orientation for the resultative interpretation.

(14a)  
\[
\text{Pan-ga} \quad \text{makkuro-ni} \quad \text{yaketa.}
\]  
\[
\text{bread-Nom} \quad \text{black} \quad \text{toasted}
\]  
'The bread burned black.'

(14b)  
\[
\text{Hanako-no} \quad \text{kami-ga} \quad \text{nagaku} \quad \text{nobita.}
\]  
\[
\text{Hanako-Gen} \quad \text{hair-Nom} \quad \text{long} \quad \text{lengthened}
\]  
'汉ako’s hair grew long.'

The resultative attributes in (14) are predicated by the subject, and this predication pattern appears to be counter to the object orientation of the resultative interpretation that we have observed in (13). However, it has been argued that the object orientation can be extended to the cases in (14) if we analyze the subjects in (14) as underlying direct objects. Hence, the interpretation of resultative predicates contributes to the identification of the underlying direct objects and suggests, in turn, that the verbs in (14) are unaccusatives.

Given the direct-object orientation of the resultative construction, consider the interpretation of the resultative attributes of the examples in (15–16).
The unaccusative analysis of this class of zi-verbs is further supported by two phenomena involving numeral quantifiers (NQs). Miyagawa (1989) argues that in order for an NQ to modify an NP, the NQ and the NP must be in a mutual c-command relation. For example, compare the two sentences in (17).

(17a) *Tomodati-ga san-nin [\text{VP} ie-o katta].*  
friends-Nom 3-cl. house-Acc bought  
‘Three of (my) friends bought a house.’ (Miyagawa’s (76))
The subject and the NQ in (17a) can maintain a mutual c-command relation, and the sentence is grammatical. In (17b), in contrast, the VP-internal NQ fails to have a mutual c-command relation with the subject NP, and the sentence is ungrammatical. Miyagawa further explains that if a verb is unaccusative, a subject-oriented NQ may occur within the VP because the NQ and the trace of the subject can hold a mutual c-command relation. This is illustrated in (18).

(18) Gakusei-ga [vp ofisu-ni t1 huta-ri kita].
    students-Nom office-to 2-cl. came
    ‘Two students came to the office.’

The verb *kita ‘came’ is unaccusative and lacks the ability to assign a Case. The sole argument of the verb, gakusei ‘student’, which is underlyingly the direct object, undergoes a movement to the subject position, where it receives the Nominative Case (Burzio 1986, Miyagawa 1989). The trace left behind by this movement and the NQ hold a mutual c-command relation, and thus the sentence is grammatical.

Returning to our reflexive zi-verbs, they display a phenomenon similar to the unaccusative verb in (18). The distribution of reflexive verbs with NQs is shown in (19–20).

(19) Kyonen gakusei-ga [vp abekku-de zuuu-nin zi-satu-sita].
    last year students-Nom in pairs 10-cl. self-killed
    ‘10 students killed themselves in pairs last year.’

(20) Wakusei-ga [vp yukkuri-to itiman-ko-hodo zi-ten-siteiru].
    planets-Nom slowly 10,000-cl.-about self-rotating
    ‘About 10,000 planets are rotating (themselves) slowly.’

In these examples, the VP-internal NQs successfully modify the subject NPs. This suggests that the structures of these sentences are parallel to that of (18), and that the surface subjects are underlyingly direct objects. Thus, these reflexive zi-verbs are unaccusative.

Scrambling of subject-oriented NQs provides additional evidence for the unaccusativity of these zi-verbs. Miyagawa (1989) claims that only NQs
associated with a Theme NP can leave their traces. Consider the examples in (21) and (22).

(21a) Naihu-de kodomo-ga huta-ri roopu-o kitta.
knife-with children-Nom 2-cl. rope-Acc cut
'Two children cut the rope with a knife.'

(21b) *Huta-ri naihu-de kodomo-ga roopu-o kitta.
2-cl. knife-with children-Nom rope-Acc cut

(22a) Gakkoo-ni zitensya-de gakusei-ga huta-ri haitta.
school-to bicycle-by students-Nom 2-cl. entered
'Two students entered the school by bicycle.'

(22b) Huta-ri gakkoo-ni zitensya-de gakuusei-ga haitta
2-cl. school-to bicycle-by students-Nom entered

(22c) Huta-ri, gakkoo-ni zitensya-de gakusei-ga [t_j t_i haitta].
2-cl. school-to bicycle-by students-Nom entered

The NQs modify the subjects in both sets of examples, and the (b) sentences illustrate the scrambling of the NQs. In (21) the subject that the NQ modifies is Agent. The scrambling of the NQ does not leave a trace according to Miyagawa, and without a trace, kodomo 'children' and the NQ cannot maintain a mutual c-command relation. Hence, the sentence is ungrammatical. The subject NP that the NQ modifies in (22) is Theme because the verb hairu 'enter' is unaccusative. The scrambling of the NQ in this case does leave a trace, and as illustrated in (22c), the trace of the NQ and the trace of the underlying object NP are in a mutual c-command relation. The resulting sentence is grammatical, as (22b) shows.

Given the Miyagawa analysis just outlined above, we predict that the scrambling of the NQ in (19–20) should be grammatical, under the assumption that the verbs are unaccusative. This prediction is indeed borne out, as illustrated in (23) and (24).

(23) Zyuu-nin, kono kyanpasu-de gakusei-ga
10-cl. this campus-at students-Nom
[t_j t_i zi-satu-sita].
self-killed

'10 students killed themselves on this campus.'
(24) *Itiman-ko*-hodo gingakei-de wakusei-ga
10,000-cl.-about Galaxy-in planets-Nom

\[ \text{zi-ten-siteiru} \]

self-rotating

‘About 10,000 planets are rotating (themselves) in the Galaxy.’

The NQs that modify the subject NPs are scrambled in these examples. Their grammaticality suggests that the subject NPs are moved from the object position, where they maintain a mutual c-command relation with the traces of the NQs. This further confirms the unaccusative analysis of these *zi*-verbs, and the unaccusativity of this class of *zi*-verbs accounts for the lack of direct object.4

2.3 Inalienable *Zi*-Verbs5

The second class of *zi*-verbs that we will examine can appear with direct objects. This is displayed in (25–27).

(25) *Taro*-ga hankoo-o *zi-kyoo-sita.*
  Taro-Nom crime-Acc self-confessed
  ‘Taro confessed his own crime(s).’

(26) *Hanako*-ga musuko-o *zi-man-sita.*
  Hanako-Nom son-Acc self-boasted
  ‘Hanako boasted (about) her own son.’

(27) *Jiro*-ga ayamati-o *zi-nin-sita.*
  Jiro-Nom mistake-Acc self-admitted
  ‘Jiro admitted his own mistake.’

Unlike the *zi*-verbs in (10–12), the type of *zi*-verb illustrated in (25–27) can appear with direct objects. Upon closer examination, however, the type of direct object that can co-occur with this class of *zi*-verbs is restricted in a significant way. It is important to point out that the direct objects in (25–27) are assigned particular interpretations; that is, the direct object must belong to the subject. For example, the crime in (25) must be construed as the one that Taro has committed, and the son in (26) must be Hanako’s son. The direct objects of these *zi*-verbs are necessarily interpreted in such a way that they have some attributive relation with the subject NPs such as concrete or abstract possession or a kinship relation. This restriction has a strong resemblance to the whole-part relation of inalienable possession.
constructions like those in (28–29) for English and (30–31) for Japanese.

(28) Susy craned her neck.
(29) Cara pursed her lips.

(30) Ziroo-ga kosi-o kagameta.

Jiro-Nom hip -Acc bent

‘Jiro bent his hip.’

(31) Tomoko-ga asi-o hikkometa.

Tomoko-Nom leg-Acc pulled in

‘Tomoko pulled in her legs.’

Notice that the subject NPs and the body part NPs have a whole-part relation or a possessor-possessee relation in these examples.

As it turns out, the class of zi-verbs in (25–27) exhibits behavior similar to those that appear in the inalienable possession construction in two respects: the interpretation of a nominalized verb and the type of direct object a verb takes. Consider the two sets of nominalization data in (32) and (33) first.

(32) Nominalized forms of zi-verbs

(32a) Zi-kyoo-suru-no-wa hayai hoo-ga ii.

self-confessing-Top soon way-Nom good

‘(As for) confessing about yourself/*someone else, the sooner the better.’

(32b) Zi-man-suru-no-wa yoku nai.

self-boasting-Top good not

‘Boasting (about) oneself/*someone else is not good.’

(32c) Zi-nin-suru-no-ga itiban da.

self-admitting-Nom best is

‘Self-admitting is the best.’

(33) Nominalized forms of verbs in (30–31)

(33a) Kosi-o kagameru-no-wa yoku nai.

hip-Acc bend-Top good not

‘Bending one’s own/*someone else’s hip is not good.’
(33b) (Sonna toki) asi-o hikkomeru-no-wa toozen da.
(such time) leg-Acc pull in-Top natural is
‘Pulling in one’s own legs/*someone else’s legs (at such a time) is natural.’

Notice that both types of verb induce only the reflexive interpretations.
Second, these verbs cannot take an object different in reference from the subject. This is illustrated in (34–35).

(34) Zi-verbs

(34a) Taroo-ga zibun/*Ziroo-no hankoo-o zi-kyoo-sita.
Taro-Nom self/Jiro-Gen crime-Acc self-confessed
‘Taro confessed his own/*Jiro’s crime.’

(34b) Hanako-ga zibun/*Tomoko-no musuko-o zi-man-sita.
Hanako-Nom self/Tomoko-Gen son-Acc self-boasted
‘Hanako boasted (about) her own/*Tomoko’s son.’

(34c) Ziroo-ga zibun/*Mayumi-no ayamati-o zi-nin-sita.
Jiro-Nom self/Mayumi-Gen mistake-Acc self-admitted
‘Jiro admitted his own/*Mayumi’s mistake.’

(35) Verbs in (30–31)

(35a) Ziroo-ga zibun/*Kazuo-no kosi-o kagameta.
Jiro-Nom self/Kazuo-Gen hip-Acc bent
‘Jiro bent his own/*Kazuo’s hip.’

(35b) Tomoko-ga zibun/*Satiko-no asi-o hikkometa.
Tomoko-Nom self/Sachiko-Gen leg-Acc pulled in
‘Tomoko pulled in her own/*Sachiko’s legs.’

It is crucial to note that what is denoted by the direct object must belong to the subject. For example, in (34a), the direct object hankoo ‘crime’ must be committed by Taro, and similarly in (35a), the direct object kosi ‘hip’ must be understood as Jiro’s hip.

It is worth pointing out that zibun-no ‘self-Gen’ can be deleted in all the sentences in (34–35). In such a case, however, each object still has to be interpreted as belonging to the subject NP. That is, in all the examples in (34–35), the object must have a tight referential link with the subject NP. Although a complete coreferential relation may be missing in the Japanese
sentences under discussion, the selection of the object is restricted to an NP that holds a referential relation to the subject. Thus, these two sets of data suggest the similarity of the two types of verbs.

We would now like to argue that the similarity between the two sets of verbs is captured in terms of the notion of inalienability. The object of the second class of *zi*-verbs that we have been examining must be interpreted as holding an inalienable relation with the subject, and in this regard this class of *zi*-verbs imposes the notion of inalienability on the interpretation between the subject and the object. Let us call this class of *zi*-verbs inalienable *zi*-verbs. One may argue that the relation between the subject and object of a *zi*-verb is not strictly that of inalienable possession. Although this point may hold in the present case, we wish to argue that it is an extended, and hence more abstract, notion of inalienable possession that is relevant to our discussion of reflexivity. We have seen in (34) that the possessor NP of the direct object of a *zi*-verb must refer to the subject NP. We have also noted that whenever the possessor NP is unexpressed, the possessor is assumed to be coreferential with the subject NP. That is, the direct object of a *zi*-verbs must denote something attributable to the subject NP. For instance, (*zibun-no*) *hankoo* ‘(self’s) crime’ in (34a) must be interpreted as the crime that the subject NP committed. Even though the direct objects of these *zi*-verbs do not involve inalienable possession in a literal sense, the fundamental nature of the relationship between the two NPs is such that the object NP is attributed to the subject NP. We would like to subsume such a relationship under the notion of inalienability in a more abstract sense.

3. **Summary**

In this paper we have examined *zi*-verbs and claimed that they do not form a homogeneous class. We divided the *zi*-verbs into two classes, unaccusative *zi*-verbs and inalienable *zi*-verbs. An example of each class is repeated below.

(36) Unaccusative *zi*-verb

*Taro-ga* *rippa-ni* *zi-ritu-sita.*

Taro-Nom finely self-established

‘Taro established himself well.’
Inalienable zi-verb

\[ Ziroo-ga \ (zibun-no) \ hankoo-o \ zi-kyoo-sita. \]

Jiro-Nom (self-Gen) crime-Acc self-confessed

‘Jiro confessed his own crime.’

The resultative construction and the distribution of NQs both point toward the unaccusativity of the zi-verbs in (10–12). The lack of direct objects for this class of verbs is a consequence of this unaccusative analysis. The zi-verbs of the other type, namely inalienable zi-verbs, allow for the presence of a direct object, but the object, if present, is required to be construed as having an inalienable relation to the subject.

The reflexive verbs in Japanese that we have examined in this paper are intriguing, viewed from a typological perspective. In English, for example, there is a group of verbs that require a reflexive pronoun such as himself. Consider the following examples ((39–40) are taken from Levin 1993).

(38a) Mary behaved herself.
(38b) Mary behaved.
(38c) *Mary behaved Kate.
(39a) The politician perjured himself.
(39b) *The politician perjured his aide.
(40) absent, acquit, assert, avail, bear, bestir, betake, bethink, better, busy, camouflage, carry, check, collect, comport, compose, conduct ...

The verb behave can be used either as an intransitive verb or as a transitive verb, but when it is used as a transitive verb, the direct object must be a reflexive pronoun. On the other hand, verbs like perjure, as well as those in (40), always require reflexive pronouns as direct objects. We can say that intrinsic reflexivity in English is incorporated in the lexical semantic properties of these verbs.

It is interesting to compare Japanese reflexive verbs with English intrinsic reflexive verbs in this respect. After close examination we have not been able to find any verb in Japanese that exhibits behavior similar to the class of verbs in (40). That is, it appears to us that there is not a single verb in Japanese that obligatorily takes a reflexive anaphor such as zibun or zibun-zisin as its object. Instead, as we have described in this paper, intrinsic reflexivity in Japanese is manifested in the form of zi-verbs, which all take the same morphological shape with zi- but exhibit a variety of syntactic
behavior accompanied by specific interpretations. Incidentally, English has words such as *self-incriminating, self-justifying, and self-deceiving, which arguably resemble Japanese *zi-verbs due to the prefix *self-. It should be emphasized, however, that these English words are adjectives and do not have verbal counterparts such as *to self-incriminate, *to self-justify, and *to self-deceive. Thus, while typological investigations of independent reflexive pronouns such as himself, zibun, and zibun-zisin have been conducted extensively, there is still a need for research in the area of intrinsic reflexivity for a more complete inquiry into reflexivity in general.

Notes

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1. We do not mean here that all the instances of *zi-verbs belong to the two classes to be discussed below. Besides these two classes, we have noticed that there is at least one other type in which *zi- plays a role as an adjunct. Included in this class are *zi-sui-suru ‘do one’s own cooking’, *zi-syuu-suru ‘study for oneself’, *zi-doku-suru ‘read for oneself’, and *zi-kyuu-suru ‘supply for oneself’. A complete classification of *zi-verbs has yet to be conducted.

2. The phenomenon illustrated in (7) has been analyzed in various theoretical frameworks, ranging from a syntactic approach to a pragmatic one. See, for example, Aikawa 1993 and Iida 1996. In this paper we will focus on a syntactic analysis of *zi-verbs, setting the phenomenon of (7) aside, although we believe that a condition that captures the generalization observed in (7) should be stated independently of the nature of the analysis of *zi-verbs one would adopt.

3. We would like to thank one of the referees for directing our attention to examples (8–9).

4. A reviewer questions the unaccusative status of the *zi-verbs illustrated in (10–12) for the following two reasons. First, based on the assumption that the sole argument of an unaccusative verb is Theme, the *zi-verbs in (10–12) should not co-occur with volitional adverbs. Second, an unaccusative verbal noun should not be marked with the Accusative Case (Dubinsky 1985, Miyagawa 1989, Tsujimura 1990). The reviewer argues that neither prediction is borne out, as the following examples illustrate, and that the unaccusative
analysis is not credible. (The translations are provided by the current authors.)

(i)a. *Ore wa aitūra ni omoisīraseru tame ni zi-satu-site yaru.*

'The translations are provided by the current authors.'

(i)b. *Omae, iyaiya zi-ritu-suru gurai nara sinai hoo ga ii n da zo.*

'If you establish yourself reluctantly, it's better not to do so (I tell you).'

(ii)a. *Zi-ritu-o suru*

(ii)b. *Zi-satu-o suru*

Concerning the first issue, we would like to point out that an unaccusative verb and a volitional adverb are not mutually exclusive. As is well documented in both Japanese and English (e.g., Levin and Rappaport Hovav 1995, Tsujimura 1991), an unaccusative verb can take a volitional subject. Verbs that illustrate such a property, for example, are inherently directed motion verbs such as *iku* 'go,' *kuru* 'come,' *hairu* 'enter,' and *tuku* 'arrive,' among many others. The behavior of NQs with these verbs confirms that they are indeed unaccusatives (see (18), for example; cf. Miyagawa 1989), and yet they can readily be modified by volitional adverbs. This is shown below.

(iii) *Kyaku-ga waza-to osoku tuita.*

'Guest-Nom intentionally late arrived'

(iv) *Gakusei-ga iyaiya kyoositu-ni haitta.*

'Student-Nom volitionally classroom-into entered'

'The guest arrived late on purpose.

'The students reluctantly entered the classroom.'

Therefore, modification by volitional adverbs does not negate the unaccusative status of the *zi*-verbs in question.

As for the second point, while the reviewer's claim about (ii) is well taken, it is equally true that other *zi*-verbs that we have analyzed as unaccusatives do disallow the Accusative Case on the verbal nouns. Examples include the following.

(v)a *??Tatemono-ga zi-kai-o sita.*

'Building-Nom self-demolish-Acc did'

'The building self-demolished.'
Wakusei-ga zi-ten-o site-iru.

‘Planets are self-rotating.’

It seems to us that the Accusative marking on the verbal nouns in (v) is significantly worse than on those in (ii). Note that the unaccusative diagnostics that we have adopted in this paper indicate that the predicates in (ii) as well as those in (v) are unaccusatives. We believe that the difference between (ii) and (v) resides in the volitionality (or agency) of the subject, reminiscent of an observation originally due to Miyagawa (1987). That is, to put it in our terms, when the subject is a volitional entity, as is the case of the predicates in (ii), the Accusative marking on verbal nouns is admissible; when the subject lacks volition, the Accusative marking is quite awkward, as shown in (v). This suggests that the unavailability of the Accusative Case on verbal noun cannot, by itself, single out unaccusative verbs; rather, other factors such as volitionality play a crucial role in accounting for the Accusative Case assignment pattern observed in (ii) and (v).

Thus, these two issues raised by the reviewer do not undermine our claim that the zi-verbs in (10–12) are indeed unaccusatives under the syntactic diagnostic tests that we have used in this paper, such as the resultative construction and the distribution of Numeral Quantifiers.

5. A more elaborate discussion of the content in this subsection is found in Tsujimura and Aikawa 1996.

R e f e r e n c e s


