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Author(s): Natsuko Tsujimura

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Another Look at Unaccusative Mismatches in Japanese
Natsuko Tsujimura
Indiana University

0. Introduction
Investigations of lexical semantics and its interaction with syntax have shown fruitful results in the pursuit of the nature of unaccusativity. Since Perlmutter's (1978) work, research on the identification and representation of unaccusativity has been undertaken cross-linguistically as well as from different theoretical perspectives. Examinations of unaccusative verbs from various theoretical frameworks by researchers such as Dowty (1991), Levin & Rappaport Hovav, (1995), Van Valin (1990), and Zaenen (1988, 1993), to name only a few, have come to agree on the generalization that semantic notions such as telicity, agentivity, and/or controllability contribute to the characterization of unaccusativity.

One of the phenomena that have helped elucidate the semantic characterization is "unaccusative mismatches" in the sense of L. Levin (1985). Unaccusative mismatches are described by Levin & Rappaport (1989:2) as "the situation in which different unaccusative diagnostics single out different classes of intransitive verbs within and across languages." An instance of an unaccusative mismatch that has been discussed in Dutch is illustrated in (1).

(1) a. Hij heeft/*is gelopen.
    he has/is run
    'He ran.'

b. Hij is/*heeft naar huis gelopen.
    he is/has to home run
    'He ran home.'

(Zaenen 1993:136)

The auxiliary selection has been claimed to serve as a diagnostic test for unaccusativity, namely, have for unergative and be for unaccusative. (1a) shows that manner of motion verbs like run are unergative, but when it is accompanied by a goal phrase, as is illustrated in (1b), the auxiliary selection suggests that the manner of motion verb in this example is unaccusative.

Japanese has been claimed to disallow the conflation of manner of motion and direction of motion (cf. Talmy 1985) of the type illustrated by the Dutch example of (1b). On the other hand, it has also been observed that a particular selection of a goal phrase exceptionally allows for such conflation pattern. (cf. Yoneyama 1986, Tsujimura 1994). This exceptional status has been used to argue for unaccusative mismatches in Japanese since unergative manner of motion verbs exhibit some unaccusative properties when they appear with a goal phrase. (cf. Tsujimura 1994). In this paper I will demonstrate that such an exceptional behavior is only an illusory one and does not constitute an instance of unaccusative mismatches. I will further argue that the same situation can best be viewed as
consisting of an unergative manner of motion verb and a small clause adjunct to which the unaccusativity is attributed.

1. **Goal Phrases and Unaccusative Mismatches in Japanese**

One of the diagnostic tests that has been extensively adopted for unaccusativity in Japanese is the interpretation and structure of Numeral Quantifier (NQ), as is advanced by Miyagawa (1989). In order to establish an appropriate modification relationship, a NQ and the NP that it modifies must be in a mutual c-command relation. Compare (2) and (3).

(2) **Gakusei-ga** [VP inu-to san-biki hasitta].
  student-Nom dog-with three-cl. ran
  'The student ran with three dogs.'

(3) **Gakusei-ga** [VP inu-to san-nin hasitta].
  student-Nom dog-with three-cl. ran
  '(intended reading) Three students ran with dogs.'

The classifier -biki in (2) and the classifier -nin in (3) are used to count animals and human beings, respectively. In (2) since the NQ san-biki and inu 'dog' are in a mutual c-command relation, the sentence is grammatical. In (3), on the other hand, the NQ san-nin 'three people' and the NP gakusei 'student', which it is intended to modify, are not in a mutual c-command relation, and hence the sentence is ungrammatical.

Miyagawa argues that the NQ test serves as a diagnostic test for unaccusativity. This is shown in (4).

(4) **Ki-ga** [VP taihuu-de tī san-bon taoreta].
  tree-Nom typhoon-by three-cl. fell
  'Three trees fell due to a typhoon.'

The classifier -bon in (4) refers to long and cylindrical objects, and the NQ sanbon is intended to modify the subject NP ki 'tree'. The fact that the sentence is grammatical even though the NQ sanbon 'three' and the NP ki 'tree' are not in a mutual c-command relation suggests that the NP is originally in the VP-internal direct object position and is later moved to the subject position so that it can receive Case. Hence, this provides evidence that the verb taoreta 'fell' in (4) is unaccusative.

As is demonstrated in (3), manner of motion verbs such as hasiru 'run', aruku 'walk', and oyogu 'swim' are unergative. Additional examples in (5-6) illustrate this point.
(5) *Gakusei-ga [\textit{vp} inu-to san-nin aruita].
  student-Nom dog-with three-cl. walked
'(intended reading) Three students walked with a dog.'

(6) *Gakusei-ga [\textit{vp} inukaki-de san-nin oyoida].
  student-Nom dog paddling-by three-cl. swam
'(intended reading) Three students swam by dog paddling.'

The NQ's and the subject NP's are intended to have a modification relation, but since they are not in a mutual c-command relation, the sentences are ungrammatical.

We have briefly mentioned earlier in (1) that in Dutch, manner of motion verbs, which are normally unergative, exhibit the unaccusative property in their auxiliary selection when they are accompanied by a goal phrase. The addition of a goal PP to unergative manner of motion verbs like \textit{hasiru} 'run', \textit{aruku} 'walk', and \textit{oyogu} 'swim' in Japanese is usually not allowed because, as Talmy (1985) extensively observes, Japanese is one of the languages that prohibit the conflation of manner of motion and directed motion. This is shown in (7-9).

(7) *Taroo-ga kooen-e/ni aruita.
  Taro-Nom park-to/to walked
'Taro walked to the park.'

(8) *Hanako-ga uti-e/ni hasitta.
  Hanako-Nom house-to/to ran
'Hanako ran home.'

(9) *Masao-ga kisi-e/ni oyoida.
  Masao-Nom shore-to/to swam
'Masao swam to the shore.'

Instead, the conflation of manner of motion and directed motion can only be achieved morphologically by forming a complex verb that consists of a manner of motion verb and the inherently directed motion verb \textit{iku} 'go'. This is shown in (10-12).

(10) Taroo-ga kooen-e/ni aruite-itta.
    Taro-Nom park-to/to walk-went
'Taro went walking to the park.'

(11) Hanako-ga uti-e/ni hasitte-itta.
    Hanako-Nom house-to/to run-went
'Hanako went running to the house.'
(12) Masao-ga kisi-e/ni oyoide-itta.
    Masao-Nom shore-to/to swim-went
    'Masao went swimming to the shore.'

As Yoneyama (1986) and Tsujimura (1990, 1991) discuss, however, such conflation pattern is allowed with the selection of particular postposition, namely, made 'as far as'. All the examples in (7-9) become acceptable when the PP is headed by made, as is shown in (13-15).

(13) Taroo-ga kooen-made aruita.
    Taro-Nom park-as far as walked
    'Taro walked to the park.'

(14) Hanako-ga uti-made hasitta.
    Hanako-Nom home-as far as ran
    'Hanako ran home.'

(15) Masao-ga kisi-made oyoide.
    Masao-Nom shore-as far as swam
    'Masao swam to the shore.'

Tsujimura (1994) further demonstrates that the combination of a manner of motion verb and a goal PP headed by made induces the unaccusative property, as the NQ test shows in (16). Compare (16) and ungrammatical sentences in (3), (5), and (6).

(16) a. Gakusei-ga [vpinu-to san-nin kooen-made hasitta].
    student-Nom dog-with three-cl. park-as far as ran
    'Three students ran to the park with a dog.'

b. Gakusei-ga [vpinu-to san-nin uti-made aruita].
    student-Nom dog-with three-cl. home-as far as walked
    'Three students walked home with a dog.'

c. Gakusei-ga [vpinukaki-de san-nin kisi-made
    student-Nom dog paddling-by three-cl. shore-as far as
    oyoide].
    swim
    'Three students swam to the shore by dog paddling.'

The grammaticality of these sentences is reminiscent of the unaccusative verb in (4) as well as the Dutch sentences in (1). On the basis of the range of data shown in (16), Tsujimura (1994) concludes that manner of motion verbs accompanied by a goal PP headed by made induce the unaccusative property, and hence this situation constitutes an instance of unaccusative mismatches.
2. Problems

The unaccusative mismatch analysis of the range of data given in (16), however, encounters at least two problems. First, in languages that display unaccusative mismatches with manner of motion verbs and goal phrases, the goal phrases always form a syntactic constituent with the motion verbs if the verbs show the property particular to unaccusatives. In Dutch, for example, it is only when a goal phrase appears preverbally that the unaccusative property is observed. This is illustrated in (17).

(17) a. dat Jan naar Groningengewandeld heeft/is
    that John to Groningen walked has/is

b. dat Jan gewandeld heeft/*is naar Groningen
       (Hoekstra 1984:246)

In (17a) the goal phrase is in the preverbal position, and hence the selection of *is is possible; whereas in (17b) the goal phrase is postverbal and the auxiliary selection suggests that the unaccusative property is not observed. This rigid word order is presumably to keep the constituency intact so that the manner of motion verb and the goal phrase together receive a proper telic interpretation, given that telicity is one of the main characteristics of unaccusativity.

The situation is rather different in Japanese. Consider the sentences in (18), in which the goal phrase is not adjacent to the manner of motion verbs.

(18) a. Gakusei-ga [v\text{pinu-to} kooen-made san-nin hasitta].
      student-Nom dog-with park-as far as three-cl. ran
      'Three students ran to the park with a dog.'

b. Gakusei-ga [v\text{pinu-to} uti-made san-nin aruita].
      student-Nom dog-with home-as far as three-cl. walked
      'Three students walked home with a dog.'

c. Gakusei-ga [v\text{pinukaki-de} kisi-made san-nin
      oyoida].
      student-Nom dog paddling-by shore-as far as three-cl.
      swam
      'Three students swam to the shore by dog paddling.'

Notice that the lack of adjacency between the verbs and the goal phrase does not change the status of the NQ test. That is, the NQ's are intended to modify the subject NP's, and even though the mutual c-command relation is not observed, the sentences are acceptable. Thus, if the sentences in (18) were considered as instances of unaccusative mismatches, the non-adjacency between the verbs and the goal phrases is left unaccounted for.
The second problem comes from the choice of aspectual modifiers that the alleged unaccusative mismatch sentences can distribute. One of the roles that a goal phrase plays in the type of unaccusative mismatch cases that we are discussing is to add a delimiter to the atelic eventuality denoted by the manner of motion verb, so that the eventuality is interpreted as telic. This change in telicity is reflected on the selection of aspectual modifiers. Manner of motion verbs, which by themselves are unergative, express an atelic eventuality and hence the aspectual modifier of the type "for X-time" cooccurs with them. When manner of motion verbs are accompanied by goal phrases, on the other hand, the eventuality denoted by the combination of the verb and the goal phrase is atelic, and the modifier of the type "in X-time" is selected. This prediction is borne out in the Dutch unaccusative mismatch cases, as is illustrated in (19-20).

(19) a. Hij heeft urenlang gelopen.
   'He has run for hours.'
   b. ??Hij is urenlang naar huis gelopen.
   'He is run home for hours.' (Zaenen 1993:136)

(20) a. Hij heeft urenlang gezwommen.
   'He has swum for hours.'
   b. *Hij is urenlang wegzwommen.
   'He is swum-away for hours.' (Zaenen 1993:137)

In the (a) sentences, the manner of motion verbs appear without a goal phrase. The eventualities denoted by these verbs are atelic, and the aspectual modifier of the type "for X-time" is compatible with the nature of the eventualities. As the auxiliary selection shows, the verbs in these sentences are unergative. In the (b) sentences, the delimiting expressions are added, and as the auxiliary selection indicates, they are unaccusative. Notice that in these sentences, the aspectual modifier of the type "for X-time" is not appropriate because the eventuality denoted by the verbs is telic. Thus, in Dutch, the unaccusative mismatch displays a very clear correlation among the presence of delimiting expression, telicity, and auxiliary selection.

The Japanese case of unaccusative mismatches presents a very obscure situation with aspectual modifiers. Examine (21-24).

(21) unergative verb
   a. Taroo-ga itizikan(-no aida)aruita.
      Taro-Nom one hour(-Gen for) walked
      'Taro walked for an hour.'
   b. *Taro-ga itizikan-de aruita.
      Taro-Nom one hour-in walked
      'Taro walked in an hour.'
(22) unaccusative verb
   a. *Taro-ga itizikan(-no aida)tuita.
      Taro-Nom one hour(-Gen for) arrived
      'Taro arrived for an hour.'
   b. Taro-ga itizikan-de tuita.
      Taro-Nom one hour-in arrived
      'Taro arrived in one hour.'

(23) a. Taro-ga itizikan(-no aida)kooen-made aruita.
      Taro-Nom one hour(-Gen for) park-as far as walked
      'Taro walked to the park for an hour.'
   b. Taro-ga itizikan-de kooen-made aruita.
      Taro-Nom one hour-in park-as far as walked
      'Taro walked to the park in an hour.'

(24) a. Gakusei-ga [itizikan-de san-nin kooen-made aruita].
      student-Nom one hour-in three-cl. park-as far as walked
      'Three students walked to the park in an hour.'
   b. Gakusei-ga [itizikan(-no aida) san-nin kooen-made aruita].
      student-Nom one hour(-Gen for) three-cl. park-as far as walked
      'Three students walked to the park for an hour.'

The contrast between (21a) and (21b) suggests that the manner of motion verb aruku 'walk' without a delimiting expression is unergative and denotes an atelic eventuality. This should be contrasted with the range of aspectual modifiers that unaccusative verbs normally select. The verb tuita 'arrived' in (22) is an unaccusative verb, and as such, it selects the modifier of the type "in X-time". Notice that in (23) either type of aspectual modifier can be selected. If the unaccusative mismatch analysis were correct in that a manner of motion verb accompanied by a goal phrase induces unaccusativity, the freedom of aspectual modifiers observed in (23) would be totally unexpected. Furthermore, if we continue to assume that NQ test serves as a diagnostic for unaccusativity, (24) also presents an unexpected situation. That is, the grammaticality of (24b) suggests that the verb together with the goal phrase should be considered as unaccusative, and hence the selection of aspectual modifiers should pattern like unaccusative verbs like tuku 'arrive' in (22). Contrary to this prediction, either selection of modifiers is accepted.

Hence, the problems concerning the constituency and the selection of aspectual modifiers lead us to the question of whether the phenomenon observed in (16) should indeed be captured in terms of unaccusative mismatches.
3. Small Clause Analysis

An alternative view I would like now to present does not assume the multiple classification or the classification change of the manner of motion verbs that occur with a made phrase, but claims that the range of phenomena observed in (16) reflects a complex structure involving a small clause adjunct headed by the postposition made. Under this view, the manner of motion verbs in Japanese are always unergative regardless of the type of syntactic configurations in which they appear. I do, however, recognize the unaccusative property in (16), and I shall ascribe it to the unaccusative nature of the postposition made which heads a small clause adjunct. The small clause adjunct has a PRO subject that is coindexed with the subject of the unergative manner of motion verb that appears in this construction. The schematic structure is represented in (25).

(25) [NP₁...[SC PRO₁...made]...walk/run/swim]

The treatment of the postposition made as the small clause head playing a predicative role comes from its etymological source that has been analyzed by Martin (1987). Martin traces the origin of the postposition made to mande:- mande- is the infinitival form of the old intransitive verb maud(e)-, which is the honorific verb to mean "to come" and "to go". Thus, if made indeed has originated from the verb of inherently directed motion, it is reasonable to assume that made can bear a predicative function. Furthermore, in modern Japanese inherently directed motion verbs such as kuru 'come' and iku 'go' are unaccusative. Hence, this etymological analysis can provide support not only for the predicative function of made but also for the source of unaccusative properties.

Under this alternative analysis, the NQ phenomenon observed in (16), which originally motivated the unaccusative mismatch analysis, occurs only internally to the small clause, without relying on the classification shift of the manner of motion verbs from unergative to unaccusative. The sentences in (16) take the schematic structure of (26).

(26) [NP₁...[SC PRO₁...[t₁...NQ...made]]...walk/run/swim]

As an unaccusative predicative element, made is associated only with an internal argument, which I consider to be PRO. The PRO needs to be moved to an ungoverned position, but its trace maintains a mutual c-command relation with the NQ, and since PRO is coindexed with the subject of the manner of motion verb, the NQ receives a proper interpretation. Notice that the NQ phenomenon in (16) arises not as a consequence of the classification shift of the manner of motion verbs but as a result of the unaccusative nature of made. In the case of (5-6), a small clause adjunct headed by made is not present. The manner of motion verbs are unergative and the NQ's have no way to find the NP's with which they can have a mutual c-command relation within the VP's, and the NQ's are unable to receive proper
interpretation. Thus, under this analysis, manner of motion verbs are always unergative while the unaccusativity observed in these sentences is attributed solely to *made*.

Recall that the unaccusative mismatch analysis has raised at least two problems concerning the constituency and the selection of aspectual modifiers. Neither is at issue under the current approach. First, it should be remembered that in order for a manner of motion verb and a goal phrase to be treated as an equivalent of an unaccusative verb, they must form a constituent. Under the small clause analysis, however, there is no need to assume that the manner of motion verb and a *made* phrase form a constituent. As mentioned earlier, the manner of motion verb does not change its classification as unergative and *made* heads its own small clause adjunct. Since the unaccusativity comes solely from *made*, the analysis does not require that the manner of motion verb and *made* be treated as a constituent. Rather, they are totally independent of each other.¹

Second, the small clause analysis also has a straightforward explanation for the selection of aspectual modifiers observed in (23-24). In these sentences, the manner of motion verbs are unergative and *made* is analyzed as unaccusative, and the eventuality denoted by the manner of motion verbs is atelic whereas the eventuality induced by *made* is telic. It suggests that the two different types of aspectual modifiers are free to occur with either kind of eventuality. When the aspectual modifier of the type "for X-time" appears, it modifies the atelic eventuality denoted by the manner of motion verb while when the modifier of the type "in X-time" is selected, it modifies the telic eventuality associated with *made*. Since these sentences contain two different eventuality types, two possibilities in the selection of aspectual modifiers are a natural consequence of the current analysis. Again, isolating the unaccusative properties of *made* from the unergative characteristics inherent to manner of motion verbs leads us to this natural conclusion.

Besides providing the solutions to the problems with the constituency and the selection of aspectual modifiers, the small clause analysis has another advantage over the unaccusative mismatch approach concerning the notion of delimiteness. Tenny (1987) claims that there may be no more than one delimiter per eventuality. One of the semantic characteristics of unaccusativity that we have been assuming is its telicity or delimiteness. Inherently directed motion verbs such as *go, come,* and *arrive,* being unaccusative verbs, are considered to be lexically delimited. Under the unaccusative mismatch approach, since the goal phrase headed by *made* plays a role as a delimiter that leads to the telicity that is relevant to unaccusativity, we should predict that *made* would not be able to cooccur with an inherently directed motion verb because the combination of the two would end up with two delimiters. This prediction, however, is not borne out, as is illustrated in (27-28).

(27) Taroo-ga kooen-made itta.
    Taro-Nom park-as far as went
    'Taro went to the park.'
(28) Hanako-ga watasi-no uti-made kita.
Hanako-Nom I-Gen house-as far as came
'Hanako came to my house.'

The problem with delimitedness does not even arise under the small clause analysis. In both (27-28), the made phrase forms a small clause adjunct and denotes an eventuality independent of the eventuality denoted by the inherently directed motion verb. That is, there are two sets of eventuality denoted in each of these examples, and this situation is entirely consistent with what Tenny claims.

4. Summary
To sum up, I have investigated an alleged case of unaccusative mismatches in Japanese, and have concluded that the range of phenomena that led to the unaccusative mismatch analysis should be reconsidered as not involving the verb's classification change from unergative to unaccusative or multiple classification both as unergative and as unaccusative. The alternative analysis I have proposed in this paper instead claims that the structure comprises a main clause and a small clause adjunct headed by made, whose predicative function can historically be traced to an unaccusative motion verb. The alternative approach departs from the unaccusative mismatch analysis in claiming that manner of motion verbs in Japanese are unambiguously unergative regardless of the syntactic environments in which they appear. I hope to have demonstrated that the small clause analysis not only provides a natural account of the range of phenomenon observed in this paper, but also maintains the general conflation pattern of manner of motion and direction of motion in Japanese without relying on idiosyncratic properties of a particular lexical item.

Notes
1. I tentatively assume that the examples in (18) involve scrambling of the made phrase. Due to some complications caused by the scrambling of a predicative element, I will not discuss this matter here. For more details on this, see Tsujimura (in progress).

References