VP, they should license ACD structures, since the inner VP could be copied to the gap contained in the clause adjoined to VP, without resulting in an infinite regress.

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1. Introduction

Since Perlmutter's 1978 work, research on the identification and representation of unaccusative verbs has been undertaken cross-linguistically. Unaccusative verbs are identified by various diagnostic tests, many of which recognize the subject of an unaccusative verb as having the same syntactic behavior as the object of a transitive verb. On the basis of the parallelism between the subject of an unaccusative verb and the object of a transitive verb, the sole argument of an unaccusative verb has been syntactically represented as the direct object at d-structure, which is moved to the subject position at s-structure in order to receive Case (cf. Burzio 1981). By contrast, the sole argument of an unergative verb remains as an external argument throughout a derivation. The d-structure representations of these verb types are schematized as in (1).

(1) a. transitive: \([s \ NP \ [v_{p} \ V \ NP]]\)
b. unaccusative: \([s \ [v_{p} \ V \ NP]]\)
c. unergative: \([s \ NP \ [v_{p} \ V]]\)

In spite of ample cross-linguistic evidence for the presence of unaccusativity, the question as to what makes a verb unaccusative casts a conceptual challenge in the research on unaccusativity in general. To this end, the examination of lexical semantic properties of verbs has been very helpful to isolate the semantic characteristics of unaccusativity. In this paper I will discuss cases where unergative manner of motion verbs change their classification to unaccusative in Japanese, and show that a stronger specification of change of location is required for the class shift.
2. Goal phrases and extended meaning

Locative inversion has been claimed to serve as a diagnostic test for unaccusativity in English (cf. L. Levin 1985, Bresnan & Kanerva 1989). This is why unergative manner of motion verbs such as run and swim cannot appear in this construction. However, when unergative manner of motion verbs co-occur with a goal phrase, locative inversion is exhibited with these verbs. Consider the contrast in (2-3).

(2) a. The children ran in the room.
    b. *In the room ran the children.
(3) a. The children ran into the room.
    b. Into the room ran the children.

In (2) the locative inversion is not allowed, which indicates that the verb is unergative, while the grammatical inversion sentence in (3) suggests that run should be classified as unaccusative when it co-occurs with a goal phrase such as into the room. On the basis of this observation, Levin & Rappaport 1989 claim that the generalization in (4) contributes to the determination of unaccusativity.

(4) Verbs whose meaning includes a specification of inherent direction are found in the unaccusative syntactic configuration.

(Levin & Rappaport 1989)

Let us now see whether a similar situation obtains in Japanese. Talmy 1985 observes that many languages do not allow manner of motion verbs co-occurring with a goal phrase. Romance languages are examples of this, and as Yoneyama 1986 and L. Levin et al. 1988 independently observe, Japanese is included in this group. For example, the postpositions ni 'to' and e 'to', which can form a goal phrase in Japanese, cannot appear with a manner of motion verb like aruku 'walk' and hasiru 'run', as (5) illustrates.

(5) a. ?/*Taro-ga kooen-ni/e aruita.
    Taro-Nom park-to/to walked
    'Taro walked to the park.'
    b. ?/*Taro-ga kooen-ni/e hasitta.
    Taro-Nom park-to/to ran
    'Taro ran to the park.'

As Yoneyama 1986 and Tsujimura 1990a independently show, however, there is yet another postposition that can head a goal phrase, namely, made 'as far as'. Interestingly enough, unergative manner of motion verbs can co-occur with made, as is illustrated in (6-7).

(6) Hanako-ga eki-made aruita.
    Hanako-Nom station-as far as walked
    'Hanako walked to the station.'
(7) Yooko-ga gakkoo-made hasitta.
    Yoko-Nom school-as far as ran
    'Yoko ran to the school.'
In (8) the numeral quantifier and the noun of which the numeral quantifier is predicated are in a mutual c-command relation: in (8a) the numeral quantifier is predicated of the subject while the numeral quantifier is predicated of the object in (8b), and the mutual c-command holds between the numeral quantifier and the object in (8b'). Such a mutual c-command relation is not observed in (9) between the specifier of the subject (i.e., gakusei 'student') and the numeral quantifier (i.e., sannin 'three people') in (9a') and between the subject (i.e., gakusei) and the numeral quantifier (i.e., sannin) in (9b'). Rather, what the structural configuration suggests is that the numeral quantifier in (9a') would be predicated of the head noun of the subject NP, i.e., neko 'cat', and that the numeral quantifier in (9b') would be interpreted with the object pen 'pen'. Thus, the intended reading fails to be obtained.

Given the constraint on numeral quantifier, the sentence in (10) is predicted to be ungrammatical.

The subject doa 'door' c COMMANDS the numeral quantifier expression, hutatu, but the numeral quantifier does not c-command the subject because it is within the VP. Contrary to the prediction, the sentence is grammatical. Miyagawa explains this discrepancy as follows: the verb aku 'open' is unaccusative, and the subject doa is in the object position at d-structure. For Case theoretic reasons (Burzio 1981), the underlying object must move to the subject position. Since the trace of the surface subject stays within VP, maintaining a mutual c-command relation with the numeral quantifier, the sentence is grammatical. Hence, numeral quantifier is a reliable diagnostic test for unaccusativity in Japanese.

Now consider the following examples.

(11) Gakusei-ga [yp awatete eki-made sannin aruita].
student-Nom hurriedly station-as-far-as three people walked
'Three students hurriedly walked to the station.'

(12) Gakusei-ga [yp awatete gakkoo-made sannin hasitta].
student-Nom hurriedly school-as far as three people ran
'Three students hurriedly ran to the school.'

Given Miyagawa's 1989 claim that numeral quantifiers and their antecedents must be in a mutual c-command relation, the fact that the VP-internal numeral quantifiers receive proper interpretations with the VP-external subjects suggests that the subject is originated from the d-structure direct object position, confirming the unaccusative analysis of the manner of motion verbs in these examples. Notice that this is exactly the same pattern as we saw in English examples of (2-3).

The presence of the examples as in (11-12) led me to believe in my earlier work (Tsujimura 1990a) that the generalization in (4) should also apply to Japanese. However, we still face the persistent question of why a particular selection of postpositions, namely, made rather than ni or e, should matter for the verbal classification shift if the three postpositions under discussion are indeed the same type, that is, postpositions heading a goal phrase. Furthermore, another question arises as to why made behaves differently from ni and e in its conflation pattern, given the observation that manner of motion and direction of motion are not allowed to be conflated, as we saw in (5). These questions are especially intriguing since all these three postpositions can co-occur with inherently directed motion verbs such as iku 'go' and kuru 'come', as is illustrated in (13).

(13) Taroo-ga koen-ni/e made itta.
Taro-Nom park-to/to made it was
'Taro went to the park.'
3. Made phrases as resultative predicates

Tenny 1987 states that unaccusatives are often associated with the notion of delimitedness, and that the internal argument serves as measuring out, and hence delimiting, the event. Levin & Rappaport Hovav (in press) further discuss that inherently directed motion verbs such as go and come are achievements, whereby change of location is lexically encoded, serving as a delimiter. On the other hand, unergative motion verbs are usually activity verbs without any specification of the endpoint of the action denoted by the verb. In Tenny's terms, then, unaccusative motion verbs are lexically delimited whereas unergative motion verbs are not. However, the addition of a goal phrase to a manner of motion verb has the effect of delimiting the event by specifying the attained goal. As Pustejovsky 1988 & 1991 explains, a goal phrase serves as a function from process to transition. He illustrates the effect of a goal phrase in (14-15), which should be contrasted with the representation of achievements in (15).

(14) Mary ran.

ES (event structure):

\[
\begin{align*}
\text{T} & \quad \text{(transition)} \\
\vdots & \quad \text{e}\_1 \ldots \text{e}_n \\
\text{P} & \quad \text{<P, T>}
\end{align*}
\]

LCS' (Lexical Conceptual Structure):

\[
\begin{align*}
\text{[run(m)]} \\
\text{[run(m)]}
\end{align*}
\]

LCS:

\[
\begin{align*}
\text{[run(m)]} \\
\text{[run(m)]}
\end{align*}
\]

(15) Mary ran to the store.

ES:

\[
\begin{align*}
\text{T} & \quad \text{(transition)} \\
\text{P} & \quad \text{(process)} \quad \text{<P, T>}
\end{align*}
\]

LCS:

\[
\begin{align*}
\text{Mary ran to the store} \\
\text{[run(m)]} \quad \text{[at(m, the-store)]} \\
\text{cause (act(m), become(at(m, the-store)) BY run)}
\end{align*}
\]

(16) Mary died.

ES:

\[
\begin{align*}
\text{T} & \quad \text{(transition)} \\
\text{P} & \quad \text{(process)} \quad \text{<P, T>}
\end{align*}
\]

LCS:

\[
\begin{align*}
\text{[\text{dead(m)}]} \\
\text{[\text{dead(m)}]}
\end{align*}
\]

Process manner of motions like (14) do not have a lexically encoded delimiter. A goal phrase, as in (15), allows the event denoted by the verb to be delimited since it provides an endpoint of the action, indicating the change of location. Being achievement verbs, inherently directed motion verbs like go and come have the representation similar to (16), whereby a change of location from not being at some optionally specified place X to being at X is represented as a lexical property of the verb.

Let us now turn to the Japanese data. Given the discussion on the internal analysis of unaccusative and unergative manner of motion verbs so far, the addition of a goal phrase will form an event structure similar to an inherently directed motion verb. As we have discussed above, however, Japanese is one of the languages that disallow the co-occurrence of a manner of motion verb with a goal phrase. This is because in Japanese the conflation of manner of motion and direction of motion is excluded. So, the option of a goal phrase as a delimiter of the action is not available to a manner of motion verb. Then, what is the status of the made phrase in (11-12) that enables the manner of motion verb to appear in the unaccusative syntactic configuration?

I propose that given the fact that the resultative construction is available in Japanese, as I have shown elsewhere (cf. Tsujimura 1990b,c), the made phrase is a resultative secondary predicate that adds the specification of the attained location. As a resultative phrase, it means that some individual (or object) reaches the location as a result of the action denoted by the verb. Under this resultative analysis of made phrases, three phenomena that are pertinent to manner of motion verbs are accounted for.

First, if made were analyzed as heading a goal phrase just like ni and e, then we would expect that the co-occurrence with a manner of motion verb would be impossible under the observation that manner and direction of motion cannot be conflated in Japanese. In fact, made can be used as heading a goal phrase when it appears with an inherently directed motion verb, as is illustrated in (13). However, made on the one hand and ni and e on the other are different in that the former has an additional function as a resultative secondary predicate that, in the presence of a manner of motion verb, expresses a change of location as a result of the motion denoted by the verb. The other postpositions, ni and e, do not have such a dual function. Rather, they only have the function as a modifier.

Second, the resultative analysis accounts for the parallel event structure between an inherently directed motion verb and a manner of motion verb with a made phrase. It is well known that a resultative secondary predicate is a device to delimit an action denoted by the verb that would otherwise be undelimited. For instance, contrast the English pairs in (17-18).

(17) a. John pounded the metal.
    b. John pounded the metal flat.
(18) a. Mary wiped the table.
    b. Mary wiped the table clean.

Notice that the (a) sentences are undelimited without the endpoint of the action denoted by the verb. In the (b) sentences, by contrast, the addition of the resultative attribute adds the endpoint of the action
and makes the action delimited. So, a resultative secondary predicate is a full-fledged device that supplies a delimiter. In terms of the effect on event structure, then, a resultative attribute contributes to the change in event structure from the type in (14) to the type in (15), and this change makes the event structure of a manner of motion verb with a made phrase look more like the event structure of an inherently directed motion verb.

Third, the unaccusative status of the manner of motion verb observed in (11-12) is straightforwardly explained. Simpson 1983 and Levin & Rappaport Hovav (in press) extensively discuss the condition that resultatives are predicated of the direct object. I have demonstrated in my previous work (Tsujimura 1990b,c) that this direct object condition also holds in Japanese. Under such a condition, then, the made resultatives in (11-12) must find NPs of which they are predicated. It should be remembered that the numeral quantifier test shows that the surface subjects in those sentences are indeed the d-structure objects. Hence, the resultative made phrases are predicated of those underlying objects, satisfying the direct object condition.

The claim that made can head a resultative predicate whereas ni and e cannot may be supported by a fine-grained analysis of the semantic properties of made. While made, ni and e may all be subsumed under the rubric of ‘goal’-inducing postpositions, there is a very subtle and yet significant semantic difference among them that is supportive of the proposed distinction. According to Jorden 1987, ni indicates that the motion denoted by the verb moves to or into or onto a location while made implies the motion moves to and including a location but not beyond. Thus, the most salient semantic difference between ni and e on the one hand, and made on the other is that made marks the endpoint of the motion more clearly than ni and e. The postpositions ni and e do denote a loosely-defined ‘goal’, but their semantic content does not seem to set the endpoint explicitly enough to qualify to be a resultative secondary predicate.

Furthermore, the etymological difference between made and e may provide another piece of supporting evidence for the resultative analysis of made phrases proposed here. Martin 1987, for example, traces the origin of made as the old honorific intransitive verb maud(e)- ‘come, go’. He further claims the origin of e to be the noun he ‘vicinity’. Martin’s analysis strongly suggests the predicative nature of made: that is, made can be traced back to an honorific verb, a full-fledged predicate. What is more striking is that the source verb, maud(e)-, is a verb of inherently directed motion. In modern Japanese, inherently directed motion verbs such as iku ‘go’ and kuru ‘come’ are unaccusative. Therefore, this etymological analysis, if correct, can account not only for the predicative nature of made phrases but also for its relation to unaccusativity. Furthermore, Martin’s explanation of the origin of the postposition e seems to elaborate on the fine-grained semantic distinction between made and e that has been discussed earlier. Recall that we claimed ni and e do not express the endpoint of the action named by the verb fully enough to qualify to be a resultative predicate, and having a noun source whose meaning implies ‘vicinity’ (at least for e) in fact seems to substantiate our claim.

For this matter, it should be noted that although in modern Japanese the conflation of manner of motion and direction of motion is not allowed, as we have seen in (5), the conflation under discussion can be possible if a manner of motion verb is used as a complex predicate with an inherently directed motion verb. This is shown in (19).

   Taro-Nom park-to/to run-went
   ‘Taro ran to the park.’

b. Hanako-ga gakkoo-e/ni aruite-itta.
   Hanako-Nom school-to/to walk-went
   ‘Hanako walked to school.’

c. Masao-ga oki-e/ni oyoide-itta.
   Masao-Nom shore-to/to swim-went
   ‘Masao swam to the shore.’

Under Martin’s etymological analysis of made, where it originates from an inherently directed motion verb, a made phrase appearing with a manner of motion verb such as aruku ‘walk’ is virtually the equivalent to what we have in (19). Thus, if made is indeed considered diachronically as a ‘replacement’ for an inherently directed motion verb, the apparently ‘exceptional’ behavior of made with manner of motion verbs comes as no surprise, given that the conflation of manner and direction is disallowed as a lexicalization pattern in Japanese: instead, it patterns exactly with (19). At the same time, the etymological source of e provides an explanation that with e phrases the conflation of manner and direction can only be made possible by the complex predicate formation of the type we have observed in (19).

This analysis of the co-occurrence of made phrases with manner of motion verbs in Japanese as a manifestation of a resultative predicate is reminiscent of Levin & Rappaport Hovav’s (in press) discussion of English manner of motion verbs accompanied by resultative phrases that express change of location. As Simpson 1983 demonstrates, unergative verbs cannot take resultatives because these verbs do not have direct objects. Levin & Rappaport Hovav, however, discuss a situation where agentive manner of motion verbs like swim occur with resultative phrases that contain a particular group of adjectives such as free and apart in (20-21).

(20) She danced/swam free of her captors.
(Levin & Rappaport Hovav (in press:(16a))

(21) They slowly swam apart.
(Levin & Rappaport Hovav (in press:(16b)))
Given the classification of the verbs as unergative as well as the restriction that resultative phrases are predicated of the direct object, the grammaticality of the sentences in (20-21) appears to be an unexpected result. Levin & Rappaport Hovav, however, use these examples to argue that manner of motion verbs have a dual classification, one as unergative and the other as unaccusative. As unaccusative, the verbs in (20-21) can take resultative phrases which are predicated of the surface subject. The resultatives in (20-21) are used to specify the change of location of the surface subject as a result of the motion denoted by the verb. The difference between English and Japanese, then, is that in English the unaccusative use of a manner of motion verb is manifested by either the addition of a goal phrase or the addition of a resultative predicate while, in Japanese, only the latter option is available, although in both languages the use of resultative secondary predicates is lexically restricted. In the case of English, furthermore, it is interesting that both options cannot be taken simultaneously. For example, a manner of motion verb cannot appear with a goal phrase and a resultative attribute at the same time. Consider (22-23).

(22) a. *She danced free of her captors to a nearby village.
   b. *She danced to a nearby village free of her captors.

(23) a. *They slowly swam apart to a small island.
   b. *They slowly swam to a small island apart.

The ungrammaticality in (22-23) can be attributed to the restriction on the number of delimiters, as is discussed in Tenny 1987: that is, there may be no more than one delimiter per eventuality.

A potential problem, however, arises in cases like (24-25) where an inherently directed motion verb co-occurs with a goal phrase.

(24) Taroo-ga (kooen-ni/e/made) itta.
    Taro-Nom (park-to/to/as far as) went
    'Taro went (to the park).'

(25) Hanako-ga (watasi-no uti-nile/made) kita.
    Hanako-Nom (I-Gen / house-to/to/as far as) came
    'Hanako came (to my house).'

We have just discussed that an inherently directed motion verb has its delimiter lexically encoded in its event structure. Furthermore, recall that as Tenny claims, only one delimiter is allowed per eventuality. As I have proposed in this paper, if made is a resultative secondary predicate whose primary function is to provide a delimiter for the action denoted by the verb, we would not expect a made phrase to appear with an inherently directed motion verb. This is because the event structure of the sentences like (24-25) with made would result in two delimiters, and as we have discussed earlier, such a situation should be avoided in natural languages since an event can only possibly be delimited once. Furthermore, another question arises as to what the status of the ni and e phrases in (24-25) is: should they also be analyzed as resultative predicates?

I would like to claim that goal/directional phrases headed by ni/e/made appearing with inherently directed motion verbs are all modifiers whose role is to further designate the nature of the attained goal, namely the location, that is lexically encoded as part of the directed motion verbs' lexical representation. As modifiers, ni, e, and made co-occurring with an inherently directed motion verb do not play a role as a delimiter, and the event structure is kept intact. This amounts to saying that a made phrase potentially has two functions: one as a modifier when it appears with an inherently directed motion verb, and the other as a resultative secondary predicate when it co-occurs with a motion verb. By contrast, ni and e serve only as a modifier. The role of made as a resultative secondary predicate is accompanied by the effect of compositionally deriving an accomplishment type of event structure from an activity type. Furthermore, made as a resultative is a full-fledged delimiter, while made as a modifier simply modifies the delimiter that is lexically encoded without providing further delimitedness.

4. Summary

To sum up, I have discussed two properties inherent to the postposition made, especially when it co-occurs with various types of motion verbs. When it co-occurs with a manner of motion verb, made is a resultative secondary predicate; and when accompanied by an inherently directed motion verb, it serves as a modifier over the lexically encoded direction. I have also discussed the roles that ni and e play: they lack the function as a resultative secondary predicate, and their role is restricted as a modifier. I have demonstrated that the phenomena observed with a manner of motion verb accompanied by a resultative made phrase are in essence consistent with the generalization stated in (4) at the outset, although a stronger specification of the endpoint of the action is required for the classification change, and made provides such a specification.

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FACTIVE COMPLEMENTS AND WH-EXTRACTION*

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Factive complements in Modern Greek are introduced by a specific complementizer and constitute strong islands to wh-extraction. It is argued that factive complements are not real complements of the subcategorizing verb but stand in a paratactic relation to an empty nominal complement of the main predicate in an appositive relation. The crosslinguistic asymmetries observed with respect to extraction are attributed to the ability of languages such as English to form certain types of A'-chains.

1. Introduction

The purpose of this paper is to examine the properties of factive complements and provide an account for their interaction with wh-movement. It is well documented in the literature that the clausal complements of factive predicates in English behave differently from those of non-factive predicates with respect to wh-movement. Whereas extraction is possible in non-factive complements, a subject/adjunct vs. object asymmetry is attested with respect to extraction out of factive complements, as exemplified in (1) to (6).

(1) Why do you believe [ that John left _ ] ?
(2) *Why do you regret [ that John left _ ] ?
(3) Who do you believe [ _ met Bill ] ?
(4) *Who do you regret [ _ met Bill ] ?
(5) Who do you believe [ that John met _ ] ?
(6) Who do you regret [ that John met _ ] ?

This asymmetry has been attributed by Kiparsky & Kiparsky (1971) to the semantic distinction between the two types of complements, that is, to the fact that the latter are presupposed by the speaker. Various syntactic analyses have been proposed in the literature to account for this asymmetry crucially relying on the special status of CPs selected by factive predicates (Kiparsky & Kiparsky 1971, Cinque 1990, Melvold 1991, Hegarty 1991, 1992). Within the framework of Chomsky 1986, most of the preceding analyses link this type of asymmetry to the ECP; traces of subjects and adjuncts must be antecedent-governed by intermediate traces, whereas traces of objects are properly governed by the selecting verb.

The syntactic pattern described by the above accounts is not quite exhaustive. Factive complements in Modern Greek block any kind of extraction (Roussou 1992, 1993, Varlokosta 1993, 1994), as