

Dethematized Subjects and Property Ascription in Japanese

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0. Introduction

This article investigates a class of relative clause constructions in Japanese which contain an apparently empty subject position and display a non-ordinary tense interpretation of the past tense morpheme. It is argued that the subject position in this construction is a dethematized position, to which no θ -role is assigned. It will also be shown that the way the tense morpheme receives interpretation, together with the fact that the subject position is dethematized, will naturally follow from other features of the grammar of Japanese that are relevant to the notion of "property ascription".

1. Facts

It has long been noticed that in a Japanese relative clause the past tense suffix sometimes displays a progressive or simultaneous interpretation when attached to a certain class of verbs. (See Inoue (1976) and Teramura (1984) and references cited there.) For instance, compare (1) and (2).¹

- (1) [booshi o kabut-ta] hito
hat Acc wear-Past person
(a) 'the person who wore a hat'
(b) 'the person who is wearing a hat'
- (2) [booshi o kabut-tei-ru] hito
hat Acc wear-Prog-Pres person
'the person who is wearing a hat'

(1) is ambiguous between (a) the ordinary past tense reading and (b) the result-state reading. (2), which contains the progressive of the verb, exhibits the result-state reading only.² (1) can be contrasted with (3), which only displays the past tense interpretation.

- (3) [booshi o kat-ta] hito
hat Acc buy-Past person
'the person who bought a hat'

Notice also that the result-state reading in question is not available if a position other than the subject is relativized. Thus, if we turn (1) into a relative clause that contains a gap in the object position, it will lose the result-state interpretation, as pointed out in Teramura (1984).

- (4) [Taro ga kabut-ta]booshi
Nom wear-Past hat
'the hat which Taro wore'

In addition to a class of 'wearing' verbs, many unaccusative verbs enter into the same construction and display the same type of ambiguity. For instance, observe (5) and (6).³

- (5) [kusat-ta] yasai
rot-Past vegetable
'rotten vegetables'

- (6) [sabi-ta] kugi
rust-Past nail
'rusted nails'

In (5) and (6), the preferred interpretation is the result-state one, but it is not difficult to detect the simple past event reading.

The main concern of this article, however, is the type of construction that is slightly different from the examples discussed so far. Consider the following.

- (7) [yude-ta] tamago
boil-Past egg
'eggs that are boiled'
(8) [chiisaku kit-ta] daikon
small cut-Past radish
'radish cut into small pieces'

Here again, there exists a systematic ambiguity. Under the more obvious interpretation, the relative clause containing the past tense suffix denotes a result-state. It can also denote a simple event reading. We often find a secondary predicate like *chiisaku* in (8) in this type of relative clause but it is not mandatory.

It has to be noticed that both in (7) and (8), the apparent gap that corresponds to the relative clause head noun occupies the object position and there is no overt subject. Schematically, we assume the following structures for (7) and (8).

- (7') [NP* e_i yude - INFL] tamago_i
(8') [NP* e_i chiisaku kir- INFL] daikon_i

I would like to argue that the position indicated by NP* in (7') and (8') is a non- θ -position. It can easily be shown that the null subject in question is different from two other kinds of null entities that frequently show up in Japanese sentences. The first kind, a context-dependent zero pronoun, and the second kind, an invisible pronoun that induces an arbitrary interpretation, are both capable of controlling another PRO in the subordinate clause.⁴

- (9) e_i [PRO_i terebi o mi-nagara] hon o yon-da
TV Acc watch-while book Acc read-Past
'(He_i) read a book while PRO_i watching TV.'
(10) [PRO_{arb} [PRO_i terebi o mi-nagara] hon o yom-u] koto wa yoku-na-i
read-Pres that Top good-not-Pres
'It is not good to read a book while watching TV.'

Note that the main subject in (9) is a discourse-dependent pronoun and the subject of the complement clause of *koto* (literally 'thing') is an arbitrary PRO. These entities, no matter how they are analyzed, can serve as the antecedent for PRO that appears in the subject position of a non-finite clause headed by *nagara*.

The relative clause construction under investigation behaves rather differently with respect to control.

- (11) [NP* [PRO terebi o mi-nagara] e_i yude-ta] tamago_i
TV Acc watch-while boil-Past egg
'the egg which (he) boiled while watching TV'
(12) [NP* [PRO terebi o mi-nagara] e_i chiisaku kit-ta] daikon_i
TV Acc watch-while small cut-Past radish
'the radish which (he) cut into small pieces'

Notice that the relative clauses in (11) and (12) have lost the result-state interpretation. They are interpretable only as past events. Moreover, the missing subject in each sentence must now receive a context-dependent interpretation, as indicated by the presence of a personal pronoun in the translations. If NP* in (7') and (8') were truly either the context-dependent null pronoun or the arbitrary PRO, it should be able to license the controlled PRO in (11) and (12). This clearly indicates that the NP* in (7') and (8') is not either of these types of empty categories.

There is another piece of evidence that suggests that the missing subject position in (7') and (8') is a non- θ position. If the NP* in (7') and (8') were a θ -position, it should be able to serve as the antecedent for anaphors. Japanese *zibun* 'self', a reflexive form, is an anaphor and hence it requires an antecedent. The following examples indicate that the missing subject in (7') and (8') cannot bind the reflexive form.⁵

- (13) [NP* [*zibun no heya de*] *ei yude-ta*] *tamagoi*
 self 's room in boil-Past egg
 'the egg which (he_j) boiled in (his_j) own room'
 (14) [NP* [*zibun no heya de*] *ei chiisaku kit-ta*] *daikon_i*
 self 's room in small cut-Past radish
 'the radish which (he_j) cut into small pieces in (his_j) own room'

Again, (13) and (14) only have the event reading and have lost the result-state reading. Concomitantly, the missing subject must now be interpreted as a context-dependent null pronoun. This further supports our contention that the missing subject position in question is in fact a dethematized position.

It is important to note at this point that the relative clause constructions in question have close parallels just like the 'wearing verb' cases we observed in (1) and (2).⁶

- (15) [NP* *ei chiisaku kit-ta*] *daikon_i*
 small cut-Past radish
 'radish cut into small pieces'
 (16) [*ei chiisaku kit-tea-ru*] *daikon_i*
 small cut-Res-Pres radish
 'radish cut into small pieces'

The resultative aspectual morpheme *tea* attaches to a transitive verb stem and detransitivizes it, just like the passive morpheme *rare* detransitivizes a transitive verb.

- (17) *dareka ga daikon o kit-ta*
 someone Nom radish Acc cut-Past
 'Someone cut the radish.'
 (18) *daikon ga kit-tea-ru*
 radish Nom cut-Res-Pres
 'The radish is cut.'
 (19) *daikon ga kir-are-ta*
 radish Nom cut-Pass-Past
 'The radish was cut.'

Thus, the contrast between the event reading found in (17) and the result-state reading found in (18) is neutralized in the relative clause construction, and hence we find (15) ambiguous between these two readings. We have to also note that this kind of neutralization is restricted to verbs of a certain semantic class.

- (20) [NP* e_i kat-ta] honi
 buy-Past book
 'the book which (he) bought'
- (21) [NP* e_i tabe-ta] ringo_i
 eat-Past apple
 'the apple which (he) ate'
- (22) [NP* e_i mitsuke-ta] tamago_i
 find-Past egg
 'the egg which (he) found'

All of these relative clauses permit event readings but not result-state readings. The main verb of the relative clause must be chosen from a class of verbs that denote some sort of change of state or property.

- (23) [NP* e_i futatsu ni ot-ta] hankachij
 two into fold-Past handkerchief
 'the handkerchief folded into two'
- (24) [NP* e_i kireini tsutsun-da] hako_i
 beautifully wrap-Past box
 'the box which is wrapped beautifully'
- (25) [NP* e_i mus-ita] imo_i
 steam-Past potato
 'the potato which is steamed'
- (26) [NP* e_i satoo o kake-ta] pani
 sugar Acc sprinkle-Past bread
 'the bread which is sprinkled with sugar'
- (27) [NP* e_i bara o ue-ta] niwai
 rose Acc plant-Past garden
 'the garden in which roses are planted'

As (26) and (27) indicate, the gap need not be in the direct object position.

We have to note here that even with these verbs, if the subject position is relativized, there will be no result-state reading available.

- (28) [e_i hankachi o futatsu ni ot-ta] hito_i
 handkerchief Acc two into fold-Past person
 'the person who folded the handkerchief into two'
- (29) [e_i hako o kireini tsutsun-da] hito_i
 box Acc beautifully wrap-Past person
 'the person who wrapped the box beautifully'
- (30) [e_i imo o mus-ita] hito_i
 potato Acc steam-Past person
 'the person who steamed the potato'
- (31) [e_i pan ni satoo o kake-ta] hito_i
 bread Dat sugar Acc sprinkle-Past person
 'the person who sprinkled the bread with sugar'
- (32) [e_i niwa ni bara o ue-ta] hito_i
 garden Dat rose Acc plant-Past person
 'the person who planted roses in the garden'

All of these examples are interpreted as denoting past events. Contrast these cases with the 'wearing' verb case in (1).

Similarly, if the subject position is filled by an overt NP, the result-state reading disappears.

- (33) [Taro ga e_i futatsu ni ot-ta] hankach_i
 Nom two into fold-Past handkerchief
 'the handkerchief which Taro folded into two'
- (34) [Taro ga e_i kireini tsutsun-da] hako_i
 Nom beautifully wrap-Past box
 'the box which Taro wrapped beautifully'
- (35) [Taro ga e_i mus-ita] imo_i
 Nom steam-Past potato
 'the potato which Taro steamed'
- (36) [Taro ga e_i satoo o kake-ta] pani
 Nom sugar Acc sprinkle-Past bread
 'the bread which Taro sprinkled with sugar'
- (37) [Taro ga e_i bara o ue-ta] niwa_i
 Nom rose Acc plant-Past garden
 'the garden in which Taro planted roses'

These examples also denote past events.

3. Generalizations and questions

We have seen that the result-state reading is available in the relative clause constructions that involve the past tense morpheme *-ta*, and verbs of property change. Moreover, the result-state reading is not available if the subject position is lexically filled.⁷ We have observed that the relative clauses in (7) and (8), repeated here for convenience, contain non- θ subject positions.

- (7) [yude-ta] tamago
 boil-Past egg
 'eggs that are boiled'
- (8) [chiisaku kit-ta] daikon
 small cut-Past radish
 'radish cut into small pieces'

- (7') [NP* e_i yude - INFL] tamago_i
 (8') [NP* e_i chiisaku kir- INFL] daikon_i

Based on these observations, we must look for answers to the following set of questions, which probably are inter-related with each other.

- (38) a Why is the result-state reading available only in relative clauses?
 b Why is the result-state reading available only when the Past tense morpheme is present?
 c Why is the result-state reading available only with verbs of a certain class?
 d Why is the result-state reading available only when the subject is dethematized?

(38a) must be answered in conjunction with a specific analysis of modification as opposed to predication. (38b) must be considered by taking into account some of the language specific properties of the past tense morpheme *-ta* in Japanese. (38c) calls for an analysis of aspectual properties of the verbs in Japanese, which is closely related to (38b). Finally, (38d) is a question that cannot be answered without making reference to the notion of 'property ascription'. In the following sections, I will propose a set of theoretical assumptions, from which answers to the above set of questions will hopefully be derived in a natural way.

- (54) [NP* kinoo e_i yude-ta] tamago_i
 yesterday boil-Past egg
 'the egg which (he) boiled yesterday'

These two relative clauses seem to permit only the event reading, as predicted.

When a modifier modifies a noun (or a noun phrase), there seem to be two imaginable situations with respect to the relations between the matrix eventuality and the eventuality that comes from the modifier, which itself is a kind of predicate. The following two examples illustrate the two typical situations.

- (55) a [red] book.
 (56) a book [which Tom bought]

These two expressions involve the following respective event structures.¹²

- (57) (Ee₁)(Ee₂) [red(e₁) & theme(e₁, x) & book(e₂) & theme(e₂, x)]
 (58) (Ee₁)(Ee₂) [Past(e₁) & buy(e₁) & agent(e₁, T) & theme(e₁, x) & book(e₂) & theme(e₂, x)]

The former case, in which no tense is applied to the modifier, is a case of tenseless eventuality. It is a pure modifier interpreted in such a way that the denotation of the modifier and the denotation of the modified are conjoined set-theoretically (at least in this simple case), perhaps accompanied by a mechanism of θ discharging in the sense of Higginbotham (1985,1989). The latter case embodies a single past event with which another eventuality, being a book in this case, is connected.

A finite relative clause is usually a representative case of the second sort. This is almost inevitable because a finite clause always contains a pure tense. In Japanese, however, as we have been observing, superficially finite relative clauses do not necessarily contain tense. By the use of the aspectual *-ta*, the tensed modifier can turn into a tenseless modifier. In fact, this hypothesis receives an indirect support from the area of lexicalization. Since the *-ta* can be used as a simple marker for the result-state, certain syntactic combinations have been lexicalized. There are several lexicalized adjectives which consist of a verb stem and *-ta*.¹³

- (59) kawat-ta otoko < kawar- 'to change'
 peculiar man
 'a peculiar man'
 (60) sugure-ta hon < sugure- 'to excel'
 excellent book
 'an excellent book'
 (61) bakage-ta hanashi < bakage- 'to be idiotic'
 ridiculous story
 'a ridiculous story'
 (62) hinekure-ta kangae < hinekure- 'to distort'
 distorted view
 'a distorted view'

The existence of such lexicalized adjectives that mirror the syntactic configuration of the relative clause lends an indirect support for the present analysis.

The above considerations have provided answers to some of the questions addressed in the previous section. See (38). The characteristic property of *-ta* such that it may be purely aspectual opens a possibility for a clause to become a tenseless modifier. Even though we have to admit that the explanation here is less than complete, it is very natural that a clause that functions as a nominal modifier may undergo this change. The transition from an action to a result-state, however, is restricted for semantic reasons. This process may only apply to verbs that inherently contain a certain change of state. All these considerations conspire to provide partial (if not total) answers for

questions (38A) through (38C). The next section is devoted to answering (38D), the question about the dethematized nature of the subjects in (7) and (8).

5. State-result and dethematization

It has already been established that the predicates in (7) and (8) are interpreted as result-states rather than as actions. The remaining question is why the result-state reading becomes available only when the subject position is dethematized. As we will see immediately below, the dethematization of the subject position is only superficial. In fact, we will claim that a new θ role is assigned to the missing subject position. Remember that we have assumed that the aspectual *-ta* introduces a secondary eventuality into the logical form of the expression. Notice that this new eventuality requires a new external θ role.

(63) $(Ee')(Ee) [\text{boil}(e) \ \& \ \text{Theme}(e, x) \ \& \ \text{Result}(e', e, x)]$

This logical form contains a new NP argument within the sub expression " $\text{Result}(e', e, x)$ ", the position indicated by "x". This position, due to the nature of the lexical semantics of *yude-* 'to boil', must be filled by a covariable that occupies the theme argument of the boiling event. In other words, it is the theme object of the boiling event that undergoes some change and acquires a new state, namely becoming boiled. Following Marantz (1984), I assume that the external θ role is compositionally and indirectly assigned to the SPEC of IP. Thus, in order for this new argument, call it a result argument, to be realized, its θ role must be discharged. As we have already seen, the composite in (63) is interpreted as a result-state, an instance of the more general notion of 'property'. However, we have also concluded that property ascription is exercised only in the subject position. In order to fulfill these requirements, the logical form of the stem plus the aspectual morpheme must acquire the following thematic structures.

(64)

$$\begin{array}{c}
 \text{[VP [e]acc yude-ta] < res >} \\
 \swarrow \quad \searrow \\
 \text{[NP e]} \quad \text{yude-ta < th, res >} \\
 \quad \swarrow \quad \searrow \\
 \text{yude < agt, th >} \quad \text{ta[-tense]}
 \end{array}$$

The above schematic diagram illustrates how the result θ role, being a natural target of property ascription, must be assigned to the SPEC of IP. In order to achieve this result, the agent role, which would have been assigned to the SPEC of IP if the non-state character had been preserved, must be deleted.¹⁴ We therefore assume that the relative clause part in (65) has something like (66) as its logical representation.

(65) [e e yude-ta] tamago
 boil-Past egg
 'a boiled egg'

(66) $\lambda x(Ee')(Ee) [\text{boil}(e) \ \& \ \text{Theme}(e, x) \ \& \ \text{Result}(e', e, x)]$

This, in turn, presupposes that a null operator of the relative clause binds two empty positions in the following LF structure.

(67) [[e_i e_i yude-ta] OP_i] tamago

Notice that two distinct θ roles are assigned to the two empty positions; a theme role to the direct object position and a result role to the subject position.¹⁵

The discussion so far centered around the subjectless relative clause that exhibits a result-state interpretation, but our analysis proposed for such constructions naturally carries over to other cases of stative relative clauses. First, let us consider the 'wearing' verb case, which we discussed at the outset.

- (68) [e_i booshi o kabut-ta] hito_i
 hat Acc wear-Past person
 'the person who is wearing a hat'

The result-state reading of the relative clause portion of (68) should be represented in the following way.

- (69) $\lambda x(Ee')(Ee) [\text{wear}(e) \ \& \ \text{Theme}(e, \text{the hat}) \ \& \ \text{Result}(e', e, x)]$

Just like (66), the external θ role of the original verb, namely the agent role is deleted and is replaced by the result role. In this case, however, the entity that undergoes a change and acquires a new state is not the theme argument but the agent argument of the wearing event, a semantically straightforward conclusion.

Unaccusative verbs in the sense of Levin (1989), Perlmutter (1978), Tsujimura (1991) and others, are also expected to participate in this process.

- (70) [IP NP [vP e kusat-] ta] yasai
 rot - Past vegetable
 'vegetables that are rotten'

- (71) [IP NP [vP e sabi-] ta] kugi
 rust- Past nail
 'nails that are rusted'

If these unaccusative verbs have their d-structure subject within VP, by moving the empty variable in the object position to the SPEC of IP, which is anyway available, the latter position can serve as the target of property ascription.

6. Concluding remarks

It has been shown that a peculiar behavior of the past tense relative clause in Japanese can easily be accounted for on the basis of particular views of event structures and certain assumptions about property ascription. Dethematization is shown to be a consequence of a θ reanalysis that introduces a new result θ role, which then is assigned to the missing subject position for the purpose of property ascription. The adjectival character of these relative clauses can be attributed to the disappearance of tense and the stativity of the newly introduced result predicate. A single language-specific feature of the past tense morpheme in Japanese has been shown to lead to certain unexpected syntactic variations, a conclusion that is full accordance with the prevailing theory of universal grammar.

NOTES

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¹ Case particles GA, O, NO, NI and the topic marker WA are abbreviated in gloss as Nom(inative), Acc(usative), Gen(itive), Dat(ive) and Top(ic), respectively. The progressive forms *te i-ru* and *te i-ta* should receive a finer analysis but for the purposes of the present paper they are treated as a sequence of the progressive marker (*tei*) and a tense suffix, either the present *-ru* or the past *-ta*. Allomorphy is often ignored and a simple phonetic form is given without any explanation. For instance, in (1) the verb stem has /kabur-/ as the dictionary form and the final consonant assimilates to the voiceless dental stop of the initial consonant of the past tense suffix.

² This, of course, depends on the semantics of the verb. If *booshi o abur-* 'to wear a hat' is interpreted as an achievement verb phrase in the sense of Vendler (1967), the progressive aspect does not denote an ongoing action but rather a result-state. The same verb phrase may be interpreted as an accomplishment verb phrase, in which case (2) denotes the ongoing action of wearing a hat. Incidentally, if it is interpreted progressively, it is subject to the "imperfective paradox" discussed in Dowty (1977) and [Parsons, 1989 #115] among others. Since only the result-state interpretation is relevant in the present context, it will be assumed throughout the paper as if the kind of ambiguity found in (2) does not really exist.

³ The lack of articles and overt singular vs. plural distinction in noun phrase makes it difficult to obtain uniform translations in English with respect to these two features. Plural nouns with no article will be adopted as the standard translation but sometimes a singular noun with the definite article is used when it makes more sense to do so. Such variations in the English translation should not be taken as reflecting any significant differences, syntactic or semantic, in the corresponding Japanese sentences.

⁴ The context-dependent null pronoun is given a uniform translation as a third person singular masculine pronoun for convenience. The more accurate translation should be neutral with respect to these grammatical features.

⁵ I owe this observation to Mamoru Saito (personal communication).

⁶ Just like the progressive aspectual morpheme *tei(ru)*, a finer analysis should attach *te* to the verb stem and separate *a* as the resultative morpheme. A simplified notation is adopted for the present purposes. See Note 1.

⁷ This statement must be made more precise. There are cases in which the result-state reading is available even with an overt 'subject'. The specifier position of IP, however, must not be lexically filled.

⁸ If we change the tense in (48) to the present tense *-ru*, then it can be said to involve property ascription if we take the habitual statement as denoting a regular and recurring property of the subject.

- (i) Taro ga tennis o su-ru
 Nom tennis Acc do-Pres
 'Taro plays tennis.'

It all depends on the analysis of the 'present' *-ru* and this will not be pursued in this article.

⁹ Contrary to Diesing (1990) and Kratzer (1989), and more or less following Parsons (1989), I assume here that every eventuality-denoting predicate, whether stative or not and whether individual-level or not, has an "E"-position in its logical representation.

¹⁰ This has a very natural and nice consequence. If the entire relative clause is embedded in a future context, the first event, namely the boiling event, must be considered past only relatively to the second event (= state) that holds in the future.

- (i) watashi wa asu [yude-ta] tamago o kaw-u
 I Top tomorrow boil-Past egg Acc buy-Pres
 'I will buy a boiled egg tomorrow.'

The egg will have to be boiled prior to the speaker's buying it if the state of being boiled must hold at the time of buying. This can be inferred from the logical form but does not have to be directly represented in it.

¹¹ See also Abe (1991).

¹² We are not really talking about the precise logical representations for the syntactic constituents in (55) and (56). (57) and (58) are given merely to highlight differences between the two types of modifications.

13 The derived adjective-like modifier often undergoes semantic drift, typical in lexical processes. Note also that 'bakage-' is a fossilized verb and is only used as an adjective 'bakage-ta' in the present-day Japanese. Some forms are ambiguous between a tenseless adjective reading and a tensed predicate reading. It can be disambiguated by attaching an adverb that goes well only with one type of reading.

- (i) totemo kawat-ta machi [adjective]
very strange town
'a very strange town'
- (ii) hayaku kawat-ta machi [clause with tense]
rapidly change-Past town
'a town that changed rapidly'

14 We mean a literal deletion rather than suppression here. The agent role cannot realize even in a postpositional phrase.

- (i) *[e e Taro niyotte yude-ta] tamago
by boil-Past egg
(Int: 'the egg that is boiled by Taro')

Note also the lack of control discussed in section 2.

15 This might be taken as a violation of the bijection principle discussed by Koopman & Sportiche (1981) since an operator binds two variables. The only difference from other weak cross-over cases is that one gap c-commands the other in the present case. Thus, under the definition of Koopman & Sportiche (1981), the gap in the object position does not count as a "syntactic" variable. If the empty category in the object position is a theta position, as argued here, then a single entity receives two distinct theta roles in a single clause, an obvious violation of the theta criterion in the sense of Chomsky (1981). Perhaps the fact that two eventualities are involved in the clause makes it immune to such violations. This has to be left as an open question.

REFERENCES

- Abe, Y. (1991) "Tense, Conditionals and Arbitrary PRO Interpretation in Japanese," *Proceedings of Sophia Linguistics Society 6*, Sophia University.
- Bach, E. (1986) "The algebra of events", *Linguistics and Philosophy*, 9, 5-16.
- Chomsky, N. (1981) *Lectures on Government and Binding*, Foris.
- Davidson, D. (1967) "The logical form of action sentences," in Rescher eds., *The Logic of Decision and Action*, Univ. of Pittsburgh Press.
- Diesing, M. (1990) *The Syntactic Roots of Semantic Partition*, Ph.D. dissertation, University of Massachusetts at Amherst.
- Dowty, D. (1977) "Toward a semantic analysis of verb aspect and the English 'imperfective'", *Linguistics and Philosophy*, 1, 45-77.
- Fukui, N. (1986) *A Theory of Category Projection and Its Applications*, Ph.D. dissertation, M.I.T.
- Higginbotham, J. (1985) "On semantics", *Linguistic Inquiry*, 16, 547-93.
- Higginbotham, J. (1989) "Elucidations of meaning", *Linguistics and Philosophy*, 12, 465-517.
- Inoue, K. (1976) *Henkeibunpoo to Nihongo*, Taishukan Shoten.
- Koopman, H. & D. Sportiche (1981) "Variables and the Bijection Principle", Paper presented at the GLOW conference.
- Kratzer, A. (1989) "Stage-level and individual-level predicates," in *Papers on Quantification*, University of Massachusetts, Amherst.
- Kuno, S. (1973) *The Structure of the Japanese Language*, MIT Press.
- Levin, B. & M. Rappaport (1989) "An approach to unaccusative mismatches", *NELS 19*, 314-329.
- Marantz, A. (1984) *On the Nature of Grammatical Relations*, MIT Press.
- Parsons, T. (1989) "The progressive in English: events, states and processes", *Linguistics and Philosophy*, 12, 213-241.

- Perlmutter, D. (1978) "Impersonal passives and the unaccusative hypothesis", *BLS*, 4.
Teramura, H. (1984) *Nihongo no Syntax to Imi*, Kuroshio Shuppan.
Tsujimura, N. (1991) "On the semantic properties of unaccusativity", *Journal of Japanese Linguistics*, 13, 91-116.
Vendler, Z. (1967) *Linguistics in Philosophy*, Cornell Univ. Press.