The morphology of transitivity*

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In this paper, I present a puzzle that a class of V-V compound (aspectual V-V compound) in Japanese poses. I first show that with causative constructions, the morphological shape of the base verb and the adverbial interpretation provide useful evidence in determining the size of the embedded structure. In the context of aspectual V-V compounds, however, the two tests show conflicting results.

1. Introduction

Traditionally, all embedded clauses were assumed to have a full clause structure such as CP or IP. Recent developments in syntax have challenged this idea and instead, postulate that some embedded clauses are bare verbal projections (VPs), lacking functional projections (e.g. Baker 1996, Wurmbrand 2002). One of the positive consequences of this proposal is that the similarities between lexical causative constructions and syntactic causative constructions can be restored. In both constructions, a causative predicate embeds a structure denoting the caused event, but they differ from each other in whether this structure contains a functional category or not. While lexical causative predicates embed bare VPs, syntactic causative predicates embed a full clause.

This idea, however, requires us to take an extra precaution in determining what exact embedded structure we might have whenever we have an embedded structure. It is during such a process that the puzzle I report here was discovered.

The puzzling piece of evidence presented in this paper is exemplified in (1).

(1) Kotaro-ga yakkuri-to gohan-o tabe-hazime-ta.
K-NOM slowly-ADV meal-ACC eat-begin-PAST
‘Kotaro began to eat the meal slowly.’

In this paper, I show that this construction has the morphological appearance that makes it pattern with the syntactic causative. In other words, the morphological shape of this construction suggests that the embedded structure is a full clause. However, the interpretation of the adverb yakkurito ‘slowly,’ as indicated in the translation makes this

* I would like to thank the participants of the Workshop on Japanese Phonology and Morphology at University of Toronto. The research was funded by J. W. McConnell McGill Major Scholarship to the author and SHRRC grant # 41020040966 to Professor Lisa Travis.

Toronto Working Papers in Linguistics 26: 115–122
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construction pattern with the lexical causative, in which the embedded structure is a bare VP.

1.1 Types of causatives and transitivity

Causative predicates can be classified based on the type of causation they express: lexical causative predicates express direct causation (as defined in Lewis 1973, McCawley 1976, Bittner 1999) and syntactic causative predicates express non-direct causation.¹ This lexical-syntactic distinction is discussed extensively in Shibatani (1976). He examines the behavior of adverbs, VP anaphora (so su) and event-referring pronoun (sore) and argues that lexical causatives, unlike syntactic causatives, do not involve full-clausal embedding.

Moreover, the lexical/syntactic distinction correlates with the morphological shape of the base the causative predicate selects for: the lexical causative suffix selects for a root (Shibatani 1976) or an unaccusative verb in certain contexts (Miyagawa 1984), and the non-lexical causative suffix selects for verbal stems of any transitivity (unaccusative, unergative, transitive), but not a root.

Syntactically, lexical causative verbs take a VP or rootP complement, and syntactic causatives take a vP or a larger constituent as their complement (e.g. Pylkkänen 2002).

1.2 Adverbs

The lexical/non-lexical classification of causative predicates correlates with whether a manner adverbial element can modify one of the events (see Shibatani 1976). In a lexical causative construction, a manner adverb cannot modify only one of the events (the causing event or the caused event). Instead, a manner adverb must modify the entire event. In a syntactic causative construction, in contrast, a manner adverb can modify just the caused event on its own, or the causing event on its own.

This behavior of a manner adverb is generally attributed to a connection between adverbial modification and event-ness. Originally, Davidson (1967) argues that adverbs are predicates of events, and that an action verb introduces such an event. Davidson’s idea is implemented in the current syntactic theory by associating voice with event-ness (see also Harley 1995, Kratzer 1996, and Travis 1994).

Based on the behavior of the adverbs in the context of causative predicates, one may generalize that manner adverbs attach to vP, and not to VP.

1.3 Aspectual V-V compounds

In Japanese, aspectual verbs (such as hajime ‘begin’) form compounds with an embedded verb. I will show that morphologically, aspectual verbs pattern with syntactic causatives. They select for verbal stems of any transitivity, but not a root. When the

¹ This is a language-particular feature of Japanese (see Shibatani 1976). In English, a syntactic causative may express direct or non-direct causation.
adverbs are applied, however, the aspectual compounds pattern with lexical causatives in
not allowing the modification of part of the complex word.

The aspectual V-V compound thus presents a puzzle for an analysis of the
embedded clause structure. The morphological form and the adverbial test provide
conflicting evidence about the size of the embedded structure.

2. Lexical causatives

As I mentioned in the introduction, the lexical causative construction always
expresses direct causation. Moreover, adverbs treat the lexical causative construction as
the unit of modification, providing no ambiguity as shown in (2).

(2) a. Kotaro opened the door slowly.
    b. Kotaro made the girl sad gradually.

In English, direct causation is expressed with a phonologically null element (ø), or make
+ adjective. The adverbs in these examples modify the progression of the whole event,
rather than just the caused event or the causing event.

Next, we see that the same condition holds in the Japanese lexical causative
construction. In Japanese, direct causation is expressed with a lexical causative
morpheme (irregular forms, or sasi).

(3) a. Kotaro-ga isu-o yukkuri-tao-si-ta.
    K-NOM chair-ACC slow-ADV fall-L.CAUSE-PAST
    ‘Kotaro toppled the chair slowly.’
    K-NOM ball-ACC gently roll-L.CAUSE-PAST
    ‘Kotaro rolled the ball gently.’

As in the English examples, the adverbs yukkuririto ‘slowly’ and sotto ‘gently’
unambiguously modify the whole event rather than just the causing event or the caused
event.

We should also note the morphological shape of the base of the lexical causative
construction. The lexical causative morpheme attaches to a root (3a) or a
monomorphemic unaccusative verb (3b), but not to a transitive (4a,b), or bimorphemic
unaccusative verb (4c).

    K-NOM N-DAT chair-ACC break.TRANS-L.CAUSE-PAST
    K-NOM N-DAT chair-ACC break.TRANS-L.CAUSE-PAST
    c. *Kotaro-ga Naoko-o tao-re-si-ta.2
    K-NOM N-ACC fall-UNACC-L.CAUSE-PAST

2 The verb root tao “fall” appears with -re when it is unaccusative and -s when it is transitive.
In addition, the caused event in a lexical causative construction is always non-agentive. The sentences in (3) imply that the accusative casemarked element did not participate willingly.

Syntactically, lexical causative predicates are analyzed as VP-taking, and are distinguished from syntactic causative predicates, which subcategorize for vP or IP (see Pykkänen 2002). This idea is consistent with the behavior of the adverbs shown in (3) and the morphological restrictions on the verbal base (4). I have argued elsewhere that manner adverbs target vP, and not VP (see Tomioka, forthcoming). The behavior of the adverbs in (3) thus confirms the general idea that a lexical causative construction embeds a structure smaller than the structure embedded in a syntactic causative construction. Moreover, the lexical causative suffix may not attach to a verbal base which contains a voice feature (transitivity), because the structure that a lexical causative predicate embeds should not contain such information.

3. Syntactic causatives

Japanese has, in addition to the lexical causative suffix, a suffix that realizes a syntactic causative predicate.\(^3\) Syntactic causatives in Japanese always express non-direct causation (Shibatani 1976). In other words, the syntactic causative construction expresses that, in addition to the causer argument of the causing event, there is a volitional agent that carries out the caused event. Moreover, in both English and Japanese, the same adverb that cannot modify just the caused event or the causing event with a lexical causative construction can do exactly that with a syntactic causative construction, as shown in (5).

\(5\)  
\begin{align*}
\text{(5a)} &\quad \text{Kotaro caused the ship to sink slowly (by chewing a small hole in its hull).} \\
\text{(5b)} &\quad \text{Kotaro quickly caused the ship to sink (slowly).}
\end{align*}

In (5a), the sentence asserts that the caused event—the sinking of the ship—was slow, without entailing that what caused the ship to sink was slow. In (5b), the sentence asserts that what Kotaro did, which eventually led to the sinking of the ship, was quick, but the sentence is true even if the caused event—the sinking of the ship—itself was slow. The same pattern is observed in Japanese, as shown in (6).

\(6\)  
\begin{align*}
\text{(6a)} &\quad \text{Kotaro-ga Naoko-o yikkuri-to taore-sase-ta.} \\
&\quad \text{K-NOM N-ACC slow-ADV fall-S.CAUSE-PAST} \\
&\quad \text{‘Kotaro made Naoko fall slowly (only Naoko’s action is slow).’} \\
\text{(6b)} &\quad \text{Kotaro-ga Naoko-ni inu-o sotto okos-ase-ta.} \\
&\quad \text{K-NOM N-DAT dog-ACC gently awaken.TR-S.CAUSE-PAST} \\
&\quad \text{‘Kotaro made Naoko awaken the dog gently (Naoko’s action is gentle).’}
\end{align*}

Moreover, in Japanese, the difference between the lexical causative construction and the syntactic causative construction surfaces in their morphological shape as well. Unlike the

\(^3\) However, see Miyagawa (1984) for an argument that in some limited contexts, this syntactic causative morpheme may realize a lexical causative predicate)
lexical causative morpheme, the syntactic causative morpheme attaches to a bimorphemic unaccusative (6a), or transitive verb (6b), but not to a root (7).

(7) *Kotaro-ga Naoko-o  tao-sase-ta.
    K-NOM N-ACC fall-NL.CAUSE-PAST

Syntactically, non-lexical causative predicates are treated as vP- or IP-taking verbs (see Pylkkänen 2002). This assumption about the non-lexical causative predicate is consistent with the behavior of adverbs with this construction. As the embedded clause of a non-lexical causative predicate is at least a vP, manner adverbs can attach to and modify just the embedded event (Tomioka, forthcoming).

Based on the examples presented so far, one might come up with the following generalizations:

- A predicate that selects for a VP (or a smaller constituent) appears with an unaccusative verb or a root, and adverbs cannot modify just the embedded event (the pattern of lexical causatives).
- A predicate that selects for a vP (or a larger constituent) appears with a verb of any transitivity, and adverbs can modify just the embedded event (the pattern of non-lexical causatives).

4. Aspectual Verbs

In this section, I show that aspectual V-V compounds are problematic to the classification presented above. In a way, the aspectual V-V compound appears to embed a full clause, like the syntactic causative. Some tests, however, show that the embedded clause of the aspectual V-V compounds cannot be a full clause.

4.1 The morphological shape of the aspectual V-V compound

Aspectual verbs select for an event-denoting complement and express the temporal aspect of that event its complement denotes. In this section, I show that the aspectual V-V compound has a morphological shape closer to the syntactic causative than to the lexical causative.

The following examples show that aspectual verbs form a compound with a transitive (8a), unergative (8b), or unaccusative verb (8c) (see Kageyama 1989).

    K-NOM meal-ACC eat-begin-PAST
    ‘Kotaro began to eat the meal.’

b. Kotaro-ga warai-tuzuke-ta.
    K-NOM laugh-continue-PAST.
    ‘Kotaro continued to laugh.’

c. Kotaro-ga taore-kake-ta.
    K-NOM fall-almost.do-PAST
    ‘Kotaro almost fell.’

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We should recall that this is the pattern we saw with the syntactic causative suffix. In addition, like syntactic causative suffixes, aspectual verbs do not combine with a root (9).

(9) *Kotaro-ga tao-kake-ta.
    K-NOM fall-almost.do-PAST

These examples thus show that morphologically, aspectual verbs pattern with the syntactic causative morpheme -(s)ase, but not with the lexical causative suffix.

4.2. Adverbs

However, aspectual verbs pattern with lexical causatives when it comes to adverbial modification. The following examples illustrate that aspectual verbs and their V1 are inseparable for adverbial modification.

(10) a. Kotaro-ga gohan-o yakkuri-to tabe-hajime-ta.⁴
    K-NOM meal-ACC slow-ADV eat-begin-PAST
‘Kotaro slowly began to eat the meal.’
Not ‘Kotaro began to eat the meal slowly (i.e. he slowed down).’
b. #Kotaro-ga gohan-o satto tabe-kake-ta.
    K-NOM meal-ACC swiftly eat-alm ost.do-PAST
‘Kotaro swiftly almost ate the meal’
Not ‘Kotaro almost ate the meal swiftly.’
(Kotaro is trying to correct his fast-eating habit)

We should recall that in the syntactic causative construction, the same adverbs can modify the caused event—i.e. the embedded structure, but not in the lexical causative construction. The behavior of the adverb in (10) thus suggests that the complement of aspectual verbs is a constituent too small for adverbial modification (VP).

The properties of the aspectual V-V compound presented in this section pose a question for the relation between morphology and syntax. If the aspectual verbs subcategorize for VPs, why do they combine with transitive verbs? If aspectual verbs can subcategorize for VPs and appear with a transitive verb base, why can’t a lexical causative morpheme attach to a transitive verb base?

References:


⁴ There is an additional complication here. If we change the form of the adverb yakkuri-to “slowly” to yakkuri -ø, some speakers are able to get the intended reading of the adverb. However, this variation in form does not affect the interpretation of the adverb in the lexical causative context, and hence, this issue is left aside in this paper. I would like to thank the audience at the workshop for raising this issue.


