THE INTERACTION BETWEEN RESTRUCTURING AND CAUSATIVE MORPHOLOGY IN JAPANESE

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1. Introduction

Linguistic research has discovered various pieces of evidence suggesting that what is known as the verb phrase is internally complex, consisting of different projections. Classifying which piece of evidence supports what type of structural representation, among all the logical possibilities, however, is not a simple task. In this paper, I focus on the two nodes, CAUSE and voice. There have been a couple of works that have pointed at the separation of these nodes. Despite the usefulness of these works in revealing the structure of a particular language (e.g. Èdó, Japanese, and Malagasy), the nature of the evidence makes it difficult to apply the same test in other languages.

In this paper, I investigate a type of restructuring phenomenon in Japanese. I argue that this particular type of restructuring affects a property associated with the voice node but leaves intact the CAUSE node of the embedded clause. Following a structural account of restructuring (e.g. Bobaljik & Wurmbrand 2004, Wurmbrand 2001), I argue that voice is absent in the embedded structure, while CAUSE is present – a conclusion that strongly favours the separation of the two nodes. Moreover, the tests used in this investigation involve simple probe of adverbial interpretation, which can be applied to elucidate an aspect of embedded clauses in a particular language.

1.1 Cause and Voice

The idea that a verb may be decomposed into the root and a part that encodes the causation was initially proposed in the Generative Semantics framework (e.g. McCawley 1971). Recently, this idea has been resurrected, but with a number of variations. Most researchers treat the phenomenon of causative-inchoative alternation as the main piece of evidence in support of this separation. An example of this alternation is shown in (1).

(1) a.   The ice melted   Inchoative *melt*
     b.   Dave melted the ice   Causative *melt*

We should note here that the two predicates (or predicate complexes) in (1) differ from each other in at least two ways. First, the causative predicate, melt, expresses a causative relation, which the inchoative predicate does not. Second, an external argument (agent) appears with the causative form, but not with the inchoative form. The investigation of the causative-inchoative alternation,

hence, led to the proposal that there is a single node that expresses causation (often referred to as CAUSE) and introduces an external argument (e.g. Kratzer 1996, Harley 1995)

In some languages, pieces of evidence accumulated to indicate that there are two, rather than just one, nodes that correspond to the CAUSE/voice node in English. The type of evidence used to support this hypothesis varies from one language to another. In Malagasy, it is morphological – there is one morpheme that corresponds to CAUSE and another that corresponds to voice (Travis 1994, 2000, 2005). In Èdó, it is the presence of two types of serial verb constructions (Baker & Stewart 1999, Stewart 2000), and in Japanese, it is the presence of a construction called the adversative causative that indicates the separation of CAUSE and voice (Pylkkänen 2002). These works show that there is a possibility for a language to have CAUSE and voice as separate nodes, and that these particular languages (Èdó, Japanese and Malagasy) exploit that option.

What we would like to know, at this point, is how we can test this separation hypothesis in other languages – languages that may not have the rich morphology of Malagasy, or the particular constructions of Japanese and Èdó. To put it differently, how does a language exploit the presence of two nodes, if these nodes are indeed separate?

In this paper, I explore the hypothesis that an embedded clause may be smaller than an IP or CP (e.g. Wurmbrand 2001, Bobaljik & Wurmbrand 2004). Moreover, I argue that by focusing on the right properties of these embedded clauses, we can identify what node (CAUSEP or voiceP in this case) these embedded clauses contain.
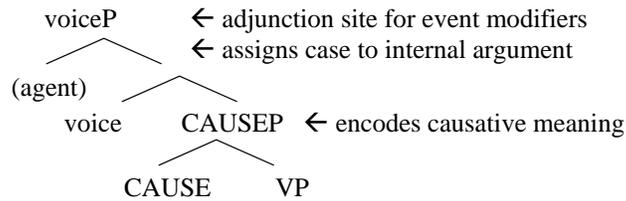
The language I investigate is Japanese, and I argue that the particular case of restructuring we see in this paper contains CAUSEP as an embedded clause but not voiceP. To reach this conclusion the arguments are presented in the following order: 1. I show that the embedded clause lacks voice. 2. I show that this "reduced" embedded clause, still, contains CAUSE. 3. I argue that the phenomenon we observe is indeed due to its syntactic structure, rather than to its morphological structure. By going through these three steps, I aim to establish an empirical test for identifying the type of restructuring, which, in turn, may indicate the separation of the two nodes CAUSE and voice in a language.

2. Extended Verbal Projection

A growing number of works point out that the structure of a verbal projection below the inflectional domain (i.e. Tense and Aspect) is complex (e.g. Larson 1988, Hale & Keyser 1993, Kratzer 1996, Travis 1994, 2000, Harley 1995, Pylkkänen 2002, Baker & Stewart 1999). The exact structure proposed in these works, however, varies considerably. Focusing our attention on the top part of the VP, we see that some researchers assume that the top three layers of a VP is voice, E, and CAUSE (e.g. Travis 1994, 2005), while others assume voice and CAUSE to be equivalent (e.g. Harley 1995, Kratzer 1996). In this section, I give a brief review of two works which argue for the separation of the two nodes, CAUSE and voice.

To put is concisely, voice is a node that introduces the external argument and CAUSE is a node that encodes the semantic of causation. Moreover, there is a function that I attribute to voice: voice introduces the Davidsonian event argument. The Davidsonian event argument (Davidson 1967) is an important construct in accounting for the interpretation of event modifiers, such as manner adverbs. I assume that the Davidsonian event argument is a formal device in syntax/semantics that licences event modifiers. The following diagrams in (2) provide a visual representation of these assumptions.

(2)

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        voiceP        ← adjunction site for event modifiers
        /    \         ← assigns case to internal argument
  (agent)   /\
        voice   CAUSEP  ← encodes causative meaning
                /\
          CAUSE    VP
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In the following sections, I show that event modifiers may not adjoin to the embedded clause in a particular type of restructuring context. Given the structural representation assumed in this paper (as represented in (2)), this phenomenon can be seen as a case in which the embedded clause is a CAUSEP, but not a voiceP. Then, I consider an alternative explanation, which draws attention to the morphological form of the restructuring in Japanese. I show that the restrictions on the event-modification do not correspond to the morphological form of the predicates and hence conclude that the phenomenon we observe should receive a structural analysis, rather than a morphological one.

3.   Restructuring in Japanese

In Japanese, embedded verbs always appear to the left of the matrix verb, but there are at least three ways in which an embedded verb is realized. In one case, the embedded verb appears with an inflectional morpheme (present tense marker), followed by the complementizer (-*no*), and followed by an accusative case marker (-*o*), as shown in (3a). In another case, the embedded verb appears with the infinitive marking (-*te*), as shown in (3b). In yet another case, the embedded verb and the matrix verb appear as a compound, as shown in (3c).

(3) a. Kotaro-ga   doa-o   sime-ru-no-o   wasure-ta.
       K.-NOM   door-ACC   close-PRES-COMP-ACC   forget-PAST
       'Kotaro forgot to close the door.'

     b. Kotaro-ga   doa-o   sime-te   mi-ta.
       K.-NOM   door-ACC   close-INF   try-PAST
       'Kotaro tried closing the door.'

     c. Kotaro-ga   doa-o   sime-wasure-ta.
       K.-NOM   door-ACC   close-forget-PAST
       'Kotaro forgot to close the door.'

The construction in (3c) is traditionally referred to as the syntactic verbal compound (Kageyama 1989). In this paper, I focus on the two sentences (3a) and (3c), which, at first glance, seem to have the same meaning. The difference between the two constructions will be shown in the next section.

3.1   Evidence for "Bare" VP Structure in the Embedded Clause

Researchers working on the syntactic verbal compound have noted that when the matrix verb is stative, the logical object of the embedded verb may appear with the nominative case (e.g. Tada 1992, Bobaljik & Wurmbrand 2004), as shown in (4).

(4) Kotaro-ga   ringo-**ga**   tabe-rare-ta-koro.
     K.-NOM   apple-NOM   eat-be.able.to.-PAST-that
     '… the fact that Kotaro was able to eat an apple.'

In Japanese, the nominative case marker (-*ga*) may appear with the object when the verb is stative, but it may not appear with the object of a non-stative verb, such as *tabe* 'eat', as shown in (5a).

(5) a. Taro-wa   ringo-*ga/o   tabe-ta.
       T.-TOP   apple-NOM/ACC   eat-PAST
       'Taro ate an apple.'

     b. [Taro   [apple-CASE   eat] be.able.to-VOICE]
                ↑_____|

The example in (5a) thus suggests that it is the voice associated with the matrix verb (*rare* 'be able to') that assigns case to the logical object of the embedded verb (*tabe* 'eat'). In turn, this case-assignment property suggests that voice in the embedded clause is not present to intervene with this case assignment, as schematized in (5b).
     To summarize, we see that voice node may be absent in the embedded

clause. This phenomenon has been called restructuring (e.g. Bobaljik & Wurmbrand 2004).

3.2   Adverbial Elements

We should recall that I assume that voice, in addition to assigning case to the internal object, also introduces the Davidsonian event argument. Since we saw in the previous section that voice is absent in the embedded clause in the restructuring context, we should expect that event-modification of the embedded clause is impossible. The following examples confirm this prediction. When an adverbial element combines with a complex sentence without restructuring (i.e. no compounding), its interpretation is ambiguous. It can modify the matrix event or the embedded event. In the restructuring context, however, its interpretation is unambiguous. It can only be understood as modifying the matrix event.

First, we see the behaviour of an event-modifying adverbial *mata* 'again'. The sentence in (6a) is ambiguous. In one interpretation, Taro had called Jiro previously, and what he forgot to do was call him again. In the second interpretation, Taro had forgotten to call Jiro previously and he had forgotten to do so again. In a structural account, *mata* adjoins within the embedded clause to yield the first interpretation and the matrix clause to yield the second interpretation. The restructuring sentence in (6b), in contract, is unambiguous. It can only mean that Jiro had forgotten to call Jiro previously and he had forgotten again. That is, the second interpretation of *mata*, which would suggest that it adjoins within the embedded clause, is absent. In other words, *mata* can adjoin to the embedded voice in (6a) but not in (6b). In our account, this is so because the embedded clause in (6b) does not contain voice.

(6)   NON-RESTRUCTURING (= NO COMPOUNDING)
    a.   Taro-wa
        T.-TOP

        [Jiro-ni **mata** denwa-o   su-ru] no-o wasure-ta.
        J-DAT again phone-ACC   do-PRES NO-ACC   forget-PAST
        'Taro forgot to call Jiro again'
        1.   He had previously called Jiro.
        2.   He had previously forgotten to call Jiro.

    RESTRUCTURING
    b.   Taro-wa
        T.-TOP

        Jiro-ni mata   denwa-o   si-wasure-ta
        J-DAT again   phone-ACC   do-forget-PAST
        'Taro forgot to call Jiro again'
        1. He had previously forgotten to call Jiro.

A similar observation can be made of locative expressions. In Japanese, locatives unambiguously modify events (Tomioka, in press). Hence, I assume that a locative PP adjoins to voice. In a non-restructuring context, a locative PP may adjoin to the embedded voiceP, thereby expressing the location of the event the embedded clause denotes. In contrast, a locative PP may not adjoin to the embedded voice in the restructuring context. Hence, it can only express the location of the matrix event.

To encourage the interpretation of the PP corresponding to the lower position, the sentences in (7) are given with the following context:

Taro planned to do a number of things during his first trip to Montreal. One of the things he planned was taking a picture at the museum. When he returned to Kingston, he realized that he had forgotten to go to the museum. In other words, he did not go to the museum.

The assertion that Taro did not go to the museum contradicts the "high" interpretation of the locative. That is, if the locative PP modifies the embedded event (forgetting), it asserts that Taro was at the museum when he forgot to take a picture. The "low" interpretation of the locative, on the other hand, is compatible with the assertion in the context. If the sentence means that what Taro forgot to do was take the picture at the museum, it does not assert that Taro was at the museum. The non-restructuring sentence in (7a) allows for the second interpretation, and hence can be true in the given context. In contrast, the restructuring sentence in (7b) does not allow for the second interpretation, and thus is false.

(7)   TRUE: NON-RESTRUCTURING
    a.   Taro-wa bijutukan-de shasin-o   toru-no-o   wasure-ta.
       T.-TOP   museum-LOC picture-ACC take-NO-ACC forget-PAST
       'Taro forgot to take a picture in the museum.'

    NOT TRUE: RESTRUCTURING
    b.   Taro-wa   bijutukan-de shasin-o   tori-wasure-ta.
       T.-TOP   museum-LOC picture-ACC   take-forget-PAST
       'Taro forgot to take a picture in the museum.'
       (The forgetting event took place in the museum.)

The two sets of examples in this section show that event predicates (adverb *mata* and a locative PP) may not combine with the embedded predicate in the restructuring context. Assuming that it is a function of voice to introduce the Davidsonian event, and that the use of these modifiers requires the presence of the Davidsonian event, we conclude that voice is absent in the embedded clause.

4.   Lexical Causatives in the Restructuring Context

We should recall the initial discussion of this paper: if voice and CAUSE are separate, CAUSE may be present in a context where voice is absent. In the previous section, we saw arguments suggesting that voice is absent in the

restructuring context. In this section, we see that CAUSE can be present in the restructuring context.

In this paper, I assume that the lexical causative morpheme in Japanese (Shibatani 1976) realizes CAUSE (Pylkkänen 2002). The following examples are parallel with the examples in the previous section, except that there is a lexical causative morpheme in the embedded clause. These examples, thus, show that even when CAUSE is present in the embedded clause, the adverbial modification of the embedded clause is not possible, which we attribute to the absence of the Davidsonian event argument.

In (8), we see that the lexical causative morpheme may appear in the embedded verb (i.e. on the verb that appears to the left).

(8) a. Taro-wa   mado-o   ak-**e**-wasure-ta.
         T.-TOP   window-ACC open-**cause**lex-forget-PAST
         'Taro forgot to open the window'

     b. Taro-wa   gomi-o   moy-**asi**-wasure-ta.
         T.-TOP   garbage-ACC burn-**cause**lex-forget-PAST
         'Taro forgot to burn the garbage.

The event modifiers we saw in (6b) and (7b) show the same pattern of interpretation with these predicates.

(9) a. Taro-wa   mado-o **mata**   ak-e-wasure-ta.
         T.-TOP window-ACC   again   open-cause lex-forget-PAST
         'Taro forgot to open the window again'
         → Taro had forgotten to do so previously
         → NOT: 'Taro forgot to open the window and he had opened it previously'

     b. Taro-wa   **kouen-de**   gomi-o   moy-asi-wasure-ta.
         T.-TOP   park-LOC   garbage-ACC burn-cause lex-forget-PAST
         'Taro forgot to burn the garbage in the park'
         → Taro was at the park.
         → NOT: 'What Taro forgot was burning the garbage in the park.'

These examples show that the presence of CAUSE does not affect the property of restructuring we observed in the previous section. That is, event modifiers are still incapable of modifying the embedded event even when the embedded clause contains CAUSE.

In this paper, I assume that it is voice that licenses the event modifier, and not CAUSE. I also assume that voice and CAUSE are separate in Japanese. Given these two assumptions, the facts lead us to a simple conclusion. In the restructuring context we observed here, the embedded clause may contain CAUSE, but not voice. Hence, even when CAUSE is present, event modifiers may not modify the embedded event because there is no voice in the embedded

clause. The following diagram represents this claim.

(10)   Restructuring

VP
/\
V (matrix)
CAUSEP   ← event modifier
/\
VP   CAUSE
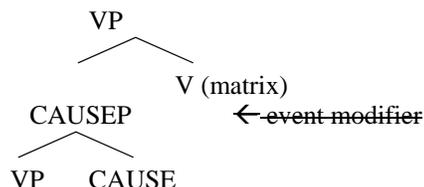
Since CAUSEP is the highest node representing the embedded clause, event modifiers may not modify the event the embedded clause expresses, as indicated with the strike through in (10).

5.   Structural Analysis, rather than "Complex Predicate Analysis"

In this section, we consider an alternative analysis of the data we observed in the previous sections. The main objection to our structural account would be that since the so-called "restructuring" context in Japanese corresponds to compounding, the effect we observed is due to a morphological/lexical effect (e.g. complex predicate formation), rather than a structural effect. I show in 5.2. that the morphological form of a predicate can be dissociated from the observed fact, and hence maintain our structural account.

5.1   Complex Predicate Analysis

There is a tradition that assumes that when two predicates appear as a single word, they, as a unit, project a structure corresponding to that of a single clause (e.g. Aissen 1979, DiSciullo & Williams 1987, Lakoff & Ross 1972, Tada 1992). The exact working of this "complex predicate formation" varies from one author to another, especially in the assumed role of Head Movement (e.g. Roberts 1997, see also, Nishiyama 1998, Collins 1997, 2002 for the use of a complex-predicate-formation-via-head-movement hypothesis in the context of serial verb constructions). Still, these researchers have in common the assumption that the morphological form of predicates (i.e. compounding, which may or may not be due to Head Movement) yields some sort of clause union effect. In the following section, I show a case in which two predicates form a single word, and yet the embedded clause maintains its event-related properties. Thus, I conclude that the compounding-equal-clause-union hypothesis does not provide a uniform explanation of the restructuring phenomena we observed.

5.2 The Dissociation between Adverbial Modification and the Morphological Shape of the Predicates

In Japanese, the syntactic causative predicate –*sase* appears suffixed to the verb

expressing the caused event. Syntactic causatives are traditionally analysed as containing a fully-clausal embedded structure (Shibatani 1973, Pylkkänen 2002). Event modifiers are able to modify the caused event, which is compatible with this traditional analysis.

The sentences in (11a) and (11c) are ambiguous, as the locative phrase (in 11a) and the adverbial (in 11c) can be interpreted as modifying either the causing event (i.e. the matrix predicate) or the caused event (i.e. the embedded clause). The English sentences in (11b) and (11d) with the bracketing correspond to the latter interpretation of the event modifiers.

(11)   LOCATIVE PHRASE
    a.   Taro-wa
            T.-TOP

            Jiro-ni osiire no   naka-de   huku-o   ki-ase-ta.
            J.-DAT   closet-GEN inside-LOC clothes-ACC wear-cause_s-PAST
            'Taro made Jiro put on his clothes in the closet
                    (Jiro was in the closet)'

    b.   Taro caused [[Jiro put on clothes] in the closet]

      ADVERB *HITORIDE* "BY ONESELF" (Shibatani 1973)
    c.   Taro-wa kodomo-ni hitoride huku-o   kis-ase-ta.
            T.-TOP   child-DAT alone   clothes-ACC wear-cause$_{synt}$-PAST
            'Taro made the child put on her clothes by herself.'
            1. No one helped the child.
            2. No one helped Taro.

    d. Taro caused [[child put on clothes] by herself]

This fact would be surprising if we assumed the morphological complex hypothesis discussed in Section 5.1. If Head Movement (or compounding) had the effect of unifying clauses, the embedded clause of the syntactic causative construction in Japanese should be "unified" with the matrix clause, since the causative predicate and the embedded verb appear as a single word. In order to maintain the complex predicate analysis, we would have to make a stipulation to constrain the application of the clause-union effect to a subset of morphologically complex predicates. This, in my opinion, is an unattractive option when we can simply assume that compounding and restructuring are two separate phenomena and that the event-related effects we observed throughout this paper are due to restructuring, rather than compounding.

6.   Conclusion

In this paper, we saw the interaction between event modification and restructuring in Japanese. In the particular case of restructuring we observed,

CAUSE can be present in the embedded clause, yet event modifiers may not modify the embedded clause. I argued that this fact suggests that voice licenses adverbs and that in this type of restructuring context, CAUSE may be present in the embedded clause but not voice. Thus, we conclude that restructuring can provide a context in which voice and CAUSE may be dissociated.

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