Chapter 4

What Counts as a SINGLE Event?
一Approaching from Japanese V-V predicates

1 Introduction

1.1 Overview

Generally, a verb is considered to constitute a single event with its arguments. However, in Japanese, two verbs easily create one predicate, V-V compound, which is a productive process and has extensively been studied (Kuno 1973, Nakau 1973, Inoue 1976, Shibatani 1976, Kuroda 1979, Sugioka 1986, Shibatani and Kageyama 1988, Kageyama 1989, 1993, Koizumi 1994, Matsumoto 1996, Miyagawa 1998, Ura 1999, Hasegawa 2000b, Fukushima 2005, and Fujii 2006, among many others). Owing much to pilot studies, we will investigate four types of Japanese V-V compounds and their argument structure in this chapter.

● Four types of V-V compounds

| Type A | **V1-V2** | *naguri-taos-u* | ("lexical" incorporation) |

                                         hit   fell

                                         'knock down'

Taroo-ga   Ziroo-o   <u>naguri -taosi</u> -ta.

Taroo-Nom   Ziroo-Acc   hit   -fell   -Past

'Taroo knocked down Ziroo.'

Type B	V1-V2	*kaki -oe-ru*	("syntactic" complementation: Control)
		write finish	
		'finish writing'	

| Hanako-ga | ronbun-o | kaki | -oe | -ta. |
| Hanako-Nom | paper-Acc | write | -finish | -Past |

'Hanako finished writing a paper.'

Type C	V1-V2	*oti -kake-ru*	("syntactic" complementation: Raising)
		fall almost/be going to	
		'almost fall' 'be going to fall'	

| Ringo-ga | oti -kake | -ta. |
| apple-Nom | fall -almost | -Past |

'The apple almost fell.'

Type D	V1-*te*-V2	*kai-te-age-ru*	("syntactic" Applicative)
		draw give	
		'draw (a picture) for the good of someone'	

| Taroo-ga | Hanako-ni | e-o | kai | -te -age -ta |
| Taroo-Nom | Hanako-Dat | picture-Acc | draw | -*te* -give -Past |

'Taroo drew a picture for (the good of) Hanako.'

The classification of Types A-C is presented by Kageyama (1989, 1993). We will follow his classification throughout this chapter, though our analysis will diverge from his. Kageyama analyzes Type A as "lexical" compounds, whereas Types B and C are "syntactic" compounds. From the early stages of Japanese generative grammar (Kuno 1973, Nakau 1973, Inoue 1976, and Shibatani 1978) and most recently in the Minimalist framework (Koizumi 1994, Hasegawa 1999, Ura 1999, and Fujii 2006, just to mention a few), Types B and C have been generally considered to involve "complementation" structure; the former includes "Control," while the latter

"Raising." We will use the terms "Control" and "Raising" for Types B and C, respectively, although Kageyama (1993) terms Type B as "transitive-type complementation structure," and Type C as "unaccusative-type complementation structure," for he argues that Case can be assigned within VP in Japanese, hence raising is not necessary in Type C. Type D shows constructions which have the form V1-*te*-V2, including the GBC investigated in Chapter 3.

1.2   Issue 1: Lexical or syntactic

One of the central issues in dealing with these V-V compounds is whether they are created in the "lexical component" or in the "syntactic component." The issue is directly connected to the lively debate on the locus of word formation in the theory of grammar, which was brought about by Chomsky (1970), and has long been discussed.[1] "Lexicalism," which attributes the morphological process (exclusively) to the lexical devise, has been advocated by Jackendoff (1975), Aronoff (1976), Farmer (1980), Miyagawa (1980), Selkirk (1982), and Kitagawa (1986), among many others. On the other hand, the "syntactic" approaches, which find syntactic properties in word formation and reduce them to syntax, have been proposed by Baker (1988), Roeper (1988), and most of the early Japanese generative studies, represented by Kuroda (1965), Kuno (1973), Nakau (1973), Inoue (1976), and Shibatani (1978). The degree to which the alleged lexical/syntactic apparatus is involved in word formation varies depending on the researcher's view. There is also a standpoint that both the lexical and syntactic apparatuses play important roles in word formation (e.g. Sugioka 1986, Borer 1988, Shibatani and Kageyama 1988, and Kageyama 1993).

Within the Minimalist framework, an innovative concept was proposed by Hale and Keyser (1993) (See Chapter 1). Apart from the traditional θ-role theory, which pertains to a "lexical" verb, such as the static "θ-grid," they argue that argument structure itself is a dynamic, derived structure. Further, the "Distributed Morphology" proposed by Halle and Marantz (1993), in which morphology is inserted

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[1] The discussion was especially on affix.

in the final stage of the derivation depending on the derived features, allows the combination/synthesis of features in syntax to be freer and more dynamic. Adopting these assumptions, we will maintain our generalized little-verb hypothesis, which has been entertained in the previous chapters:

The generalized little-verb hypothesis

Properties of little verbs restrict legitimate derivation in a language by interacting with each other, with a lower head V, or with a higher head T.

One predicate consists of layered lexical and functional verbs, irrespective of how it looks on the surface; it may seem to be one simple verb (such as the PRC in Chapter 2), or two complex verbs (the GBC in Chapter 3), or, further, compound verbs, as we will observe in this chapter.[2] Different properties of these predicates are raised from the way that verbs (V), little verbs ($v*$, v, Cause, and Appl), and other functional categories (such as T) are combined. This view will remove the border between "lexical" and "syntactic" V-V compounds. Our account will be proposed as unitary in two ways: in dealing with various types of predicates, such as the PRC, the GBC, and V-V compounds; and in handling "lexical" and "syntactic" properties of V-V compounds.

Hereafter, we will use the words "V-V predicate (VVP)" instead of V-V compound to keep a neutral standpoint, withdrawing all the conventional notions or dichotomies such as lexical/syntactic, lexical/functional, main verbs/auxiliary verbs, (complex)compounds/(simplex)predicates, incorporation/complementation, Control/ Raising, etc., though these terms are still conventionally used for technical purposes.

1.3   Issue 2: How is a SINGLE event/argument structure derived?

In a VVP, two lexical verbs are involved, but a VVP as a whole counts as a SINGLE event. Assuming argument structure is phrase structure, a question arises:

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[2] I am grateful to Nobuko Hasegawa for bringing this issue to me.

How is one argument structure "derived" from more than one lexical verb to denote one event? Along with our generalized little-verb hypothesis, we have investigated how little verbs interact with each other, or with a lower head V. In this chapter, we will go a step further than the previous chapters, and examine the head-head relationship between little verbs and T. We observe how they correlate in deriving argument/phrase structure. Head-head combination is productive process in the Japanese language, and clearly detectable in VVPs. They provide us with ideal data for investigating possible variations of integrated argument structure depending on the way that T, $v*/v$, and V are intertwined.

The discussion proceeds as follows: in Section 2, exploiting diagnostics which concern tense specification and transitive alternation, inner structures of Japanese VVPs are carefully examined, highlighting T and $v*/v$. The way in which these functional heads Merge is found to play a crucial role in determining properties of VVPs. Further, it is speculated that Merge of Appl causes so-called "grammaticalization," exhibited by the Japanese verb *age-ru* 'give' and the English verb *have*, as was mentioned in Section 5.7 in Chapter 3.

Assuming that argument structures of VVPs are derivationally and flexibly built up (cf. Nishiyama 1998a, b, and Hasegawa 2000b), the driving force should be detectable. Based on the results and discussions in Section 2, we will argue in Section 3 that lack of functional categories or of their values drive the derivation of argument structures until the specified T closes an event. This closing by one specified T leads to the one SINGLE event interpretation of a VVP as a whole.

2   What is a "SINGLE" Verb?

2.1   Four types of VVPs

As previewed in the previous section, four types of VVPs will be investigated. Examples for each type are presented in (1).

(1) Four types of VVPs

      ☐ **Type A**   **V1-V2**   *naguri-taos-u*   ("lexical" incorporation)
                             hit   fell
                             'knock down'

     Taroo-ga   Ziroo-o   <u>naguri -taosi</u> -ta.

     Taroo-Nom   Ziroo-Acc   hit   -fell   -Past

     'Taroo knocked down Ziroo.'

      ☐ **Type B**   **V1-V2**   *kaki -oe-ru*   ("syntactic" complementation: Control)
                             write finish
                             'finish writing'

     Hanako-ga   ronbun-o   kaki   -<u>oe</u>   -ta.

     Hanako-Nom   paper-Acc   write -finish -Past

     'Hanako finished writing a paper.'

      ☐ **Type C**   **V1-V2**   *oti -kake-ru*   ("syntactic" complementation: Raising)
                             fall almost
                             'almost fall' 'be going to fall'

     Ringo-ga   oti -<u>kake</u>   -ta.

     apple-Nom   fall -almost -Past

     'The apple almost fell.'

      ☐ **Type D**   **V1-*te*-V2**   *kai-te-age-ru*   ("syntactic" Applicative)
                             draw give
                             'draw (a picture) for the good of someone'

     Taroo-ga   Hanako-ni   e-o   kai   -te -<u>age</u> -ta

     Taroo-Nom   Hanako-Dat   picture-Acc   draw *-te* -give -Past

     'Taroo drew a picture for (the good of) Hanako.'

As was mentioned in Section 1, the classification of Types A-C is presented by Kageyama (1989, 1993). In the examples in (1), The V1 in all types takes a non-finite form called "ren'yoo-kei" 'continuative form,' ending with *-i* or *-e*.[3] In Types A-C, V1 in the continuative form is directly connected to V2, whereas in Type D, V1 is connected to V2 by the mediation of the connector *-te,* the status of which will be discussed later. V2 in all types ends with either the non-past tense marker *-(r)u* or the past tense marker *-ta*.

Among the studies on VVPs in Japanese, Kageyama (1993) is one of the most remarkable and influential pieces of work, presenting vast amounts of substantial data and reliable bases on which later studies stand. Our following argument is largely informed by his discussion. However, the standpoint differs from his with respect to the "component" in which the compounding operations are involved; Kageyama advocates the necessity of the lexical apparatus, under which argument structures and Lexical Conceptual Structures (LCS) are subsumed, while we claim, following Hale and Keyser (1993) and Halle and Marantz (1993), that it is in syntax that all the relevant operations are manipulated. With this background, let us observe examples for each type.

● Type A ("lexical" incorporation)

(2) a. *naguri -taos-u*,   *tazune -aruk-u*,   *nugi -sute-ru*,   *osi -age-ru*

     hit   fell   ask   walk   undress cast   push raise

     'knock down'   'walk looking for'   'cast off'   'push up'

   b. Taroo-ga   Ziroo-o   naguri -taosi -ta.

      Taroo-Nom   Ziroo-Acc   hit   -fell   -Past

      'Taroo knocked down Ziroo.'

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[3] A non-finite form, "ren'yoo-kei" 'continuative form,' is produced by adding *-i* to a verb stem unless the stem ends with the vowel *-e*.

Kageyama (1989, 1993) analyzes the VVPs in Type-A as "lexical" for two main reasons. First, semantic transparency and productivity are decreased in lexical VVPs. He points out that the Type-A VVP *nomi-aruk-u* 'drink-walk,' which means 'go around drinking,' cannot be used as *mizu-o nomi-aruk-u* 'go around drinking water,' for the VVP implies drinking alcoholic beverages. However, not all VVPs have such fixed meanings; the VVPs in (2a) above do not have any restrictions on the object. In addition, if enough context is given, it is possible to say, *raion-ga oasisu-kara oasisu-e-to mizu-o nomi-arui-ta* 'Lions walked around for water from one oasis to another.' The single verb *nom-u* 'drink' itself has the sense of 'drinking alcoholic beverages,' so it is possible to speculate that such aspect is emphasized after the VVP is systematically derived. We do not deny that a certain sense or usage of a verb tends to be emphasized in Type-A VVPs, which sometimes limits productivity (for example, *nomi-hasir-u* 'drink-run' is impossible). However, as can be seen in the examples in (2a), Type-A VVPs are still transparent concerning the interpretation. As is described by Kageyama, the event denoted by V1 is a manner or method to establish the event denoted by V2, and logically the two events occur in a serial manner on the time axis. That is to say, semantic compositionality or transparency is maintained.[4] The events denoted by V1 and V2 are syntactically and conceptually counted as one non-separable event. This fact will have significance in our later

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[4] Actually, there are VVPs which on the surface take the same form as Type-A, but their interpretations are more opaque, namely, not straightforwardly predicted, as exemplified below:

(i) a. *hiki -hara-u*   b. *kaki -kumor-u*
      pull throw   scratch cloudy
      'vacate'   'get cloudy'

The verbs *hiki* in (ia) and *kaki* in (ib) seem to have lost their original meanings and become a sort of prefix. Based on these examples, Kageyama (1993) claims that this "lexicalization" supports his claim that these VVPs are generated in the lexical component. However, it would still be possible to speculate that these verbs have changed in their derivations, as we argued how "auxiliary use" (namely, "grammaticalization,") of the verb *age-ru* is achieved in Section 5.7 in Chapter 3. Further, even in some constructions which are regarded as "syntactic," such as Raising, the total interpretation is not easily predicted either, for the meaning of V2 has changed from its original use. We consider that the difference in semantic compositionality is raised from the difference in derived structures, but not from a difference in components where VVPs are generated. We will leave the derivations for VVPs exemplified in (i) for future research and restrict our attention to the semantically transparent VVPs in (2), regarding them to represent Type A.

discussion.

The second reason for Kageyama's "lexical" analysis of Type-A is that the closeness of V1 and V2 as one unit is stronger than in the "syntactic" Types B and C. For example, the pro-verb *soo-su-ru* 'do so' cannot be substituted for V1 in Type-A, as shown in (3b), while it can in Type-B, as in (4b).

● Type A   ("lexical" incorporation)

(3) a.   Taroo-ga   Ziroo-o   <u>naguri</u> <u>-taosi</u>   -ta.

Taroo-Nom   Ziroo-Acc   hit   -fell   -Past

'Taroo knocked down Ziroo.'

b. * Kenzi-mo   <u>*soo -si*</u>   <u>-taosi</u>   -ta.

Kenzi-also   so   do   -fell   -Past

(Lit.) 'Kenzi did so and downed him, too.

● Type B   ("syntactic" Control)

(4) a.   Hanako-ga   tukue-o   <u>nuri</u> <u>-oe</u>   -ta.

Hanako-Nom   desk-Acc   paint -finish -Past

'Hanako finished painting the desk.'

b.   Taroo-mo   <u>*soo -si*</u>   <u>-oe</u>   -ta

Taroo-also   so   do   -finish   -Past

'Taroo finished doing so, too.'

Kageyama argues that "lexical" VVPs, such as (3a), are already formed in the "lexical" component and have the same status as a "word" when it is introduced to the "syntactic" component, hence any anaphoric expressions such as *soo* 'so' cannot function inside the VVPs.   In our discussion, distinctions between the components where VVPs are created is not assumed.   Rather, we will argue that substitution by the pro-verb, utilized with the focus particle *-sae,* decomposes a predicate, and reveals

a difference in the inner structure between the Type A and Type B.   We will discuss this matter more in Section 2.3.4 and 2.4.

Further, Kageyama describes morphological properties of a "word" which are common in VVPs of Types A-C.   First, he states that VVPs do not have tense. Second, due to the strong closeness as a "word," the focus particles *-sae/mo* 'even' cannot intervene between V1 and V2.   However, close scrutiny beginning in Section 2.3.4 reveals that these assertions are not necessarily true and that each of the Types A-D require distinct treatment regarding these properties.   We will argue that all the discussions above are related to a difference in the inner structures, namely, derivations, of Types A-D.

Next, Type-B and Type-C VVPs, which are generally perceived to be "syntactic," are presented.   Type B is often regarded as the Control construction, while Type C is analyzed as Raising.

- Type B   ("syntactic" complementation: Control)

(5) a.   V2=   *-oe-ru*,   *-tukus-u*,   *-nuk-u*,   *-naos-u*

finish   complete   go through   re-do

'finish doing'   'complete doing'   'complete doing'   're doing'

b.   Hanako-ga   ronbun-o   kaki   -oe   -ta.

Hanako-Nom   paper-Acc   write -finish -Past

'Hanako finished writing a paper.'

- Type C   ("syntactic" complementation: Raising)

(6) a.   V2=   *-kake-ru*,   *-sugi-ru*,   *-das-u*

hang   pass   let out

'almost do'   'do too much'   'begin to do'
'be going to do'

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b. Ringo-ga   oti -<u>kake</u>   -ta.

   apple-Nom   fall -almost -Past

   'The apple almost fell.'

On the surface, the VVPs in Type B and Type C take the same form as those in Type A: They take a V1 ending with non-finite form *-i* or *-e*, directly connected to V2, which has the tense marker *-(r)u* or *-ta*.   VVPs in Types B and C are characterized by properties of V2, which is presumed to be a head and takes infinitival complementation, such as Control or Raising.   These compounds have been widely studied since the early stages of Japanese generative grammar (Kuroda 1965, Kuno 1973, Nakau 1973, Inoue 1976, and Shibatani 1978) and in the recent Minimalist framework (Hasegawa 1999, Ura 1999, Koizumi 1994, and Fujii 2006, just to mention a few).   Following these studies, we distinguish Type B from Type C depending on the nature of V2.   So-called Raising verbs and Control verbs are distinct in properties of the surface subject.   The subject of a Control verb must "control" the subject of the embedded verb; hence it should be animate.   On the other hand, the subject of a Raising verb may be inanimate, because its properties are determined by the embedded verb.   Some verbs may be used both as a Control verb and a Raising verb. These subject properties are summarized below:

● The subject properties of Control and/or Raising verbs

(7)

	Control	Raising	Control/Raising
non-animate subject	*	ok	ok
animate subject	ok	ok	ok

Japanese verb classification is controversial, but as for the following verbs, a general consensus seems to have been reached (cf. Shibatani 1978, Kageyama 1993, Koizumi 1994, and Hasegawa 1999, among many others).

(8) a. Pure Control verbs   *wasure-ru* 'forget,' *oe-ru* 'finish,'

b. Pure Raising verbs   *kake-ru* 'be about to' 'almost do,' *sugi-ru* 'over do'

c. Control/Raising   *hazime-ru* 'begin,'   *tuzuke-ru* 'continue'

A question which may arise here is whether these Control/Raising verbs, namely, V2 verbs, belong to the same category as V1 verbs. In traditional research of Japanese linguistics, V2 verbs have sometimes been classified under "auxiliaries" or a certain sub-category, but not as "true" verbs. One reason to postulate such a different category is that the verbs' original meanings or thematic properties have changed. However, the semantic standard is not clear-cut for dividing verbs into another category, for the degree or nature of semantic changes they have undergone is diverse. Moreover, as is well known, the alleged Japanese "auxiliaries" are much different from English modal auxiliaries such as *can, may,* or *will*, in that Japanese "auxiliaries" have completely the same form as the corresponding verbs. These "auxiliaries" even inflect in the same way as the verbs. Therefore, we will assume that V2 verbs in Types B-C and all other verbs belong to the same category, V, though the former are sometimes called "auxiliaries" or "sub-verbs." We should ask why *the same verb* in form shows different behaviors depending on the environment. We speculate that this is attributable to a difference in syntactic derivations, namely, the way they Merge. We will develop the relevant discussion in Section 3.

2.2   Is T included?

As the first step, we compare VVPs in Type A with Type B by applying diagnostic tests. After that, we will proceed to compare VVPs in Type C with Types A and B.

To explore the inner structures of VVPs, we investigate the existence and function of T and little verbs, which are considered to be the most important elements to build up an event. First, let us focus on T. The Japanese tense marker is generally presumed to be a two-valued system:

● The tense system in Japanese

(9)

	morpheme	tense value	temporal interpretation	aspectual interpretation
a.	*-ta*	[+Past]	<u>past</u>	perfect
b.	*-(r)u*	[-Past]	<u>future</u>, <u>present</u>, or <u>unspecified</u>	imperfect

Conventionally, the *-ta* form is called "Past tense," and the *-ru* form is called "Present tense." There are only two forms, and the *-ru* form may be interpreted as non-past, namely, future, present, and unspecified. Following convention, *-ru* is glossed as "Pres(ent)" and *-ta* as "Past" in the example sentences in this paper, irrespective of their temporal or aspectual interpretations.

Kageyama (1989) observes that tense inflection may not appear inside VVPs irrespective of their Types, which shows the alleged disparity between words and phrases/sentences.

● Type A

(10) a.   nagur <u>-i</u>   -taos   -u

           hit   nonFin fell   Pres

           'knock down'

    b. * nagu <u>-ru</u>   -taos   -u;

           hit   Pres   fell   Pres

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● Type B

(11) a.   kak <u>-i</u>   -oe   -ru (Type B)

        write nonFin finish Pres

        'finish writing'

    b. * kai <u>-ta</u> -oe -ru

        write Past finish Pres

In (10a) and (11a), V1 takes the non-finite form called "ren'yoo-kei" 'continuative form,' ending with *-i* or *-e* (see footnote 3), as was previewed in the last section. The present tense marker *-ru* in (10b) and the past tense marker *-ta* in (11b) are excluded from the VVPs. The situation is the same in Types C and D. The data seem to suggest that tense is absent in the continuative form.

Mihara (1997) examines the continuative form of the first conjuncts in coordinated sentences and argues that they actually have independent tense. He assumes that when a clause bears tense, namely, the value of the head T is specified, T can sustain a time adverb (cf. Mikami 1953, Mihara 1992, Minami 1993, Ura 1999, and Fujii 2006).

(12) a.   Hanako-ga   imooto-ga   siken-ni   ukat   <u>-ta</u>   to   kii   <u>-ta</u>.

        Hanako-Nom   sister-Nom   exam-Dat pass -Past C hear -Past

        'Hanako heard that her sister passed the exam.'

    b.   Hanako-ga   *kinoo*   imooto-ga   siken-ni   ukat-<u>ta</u>   to

        Hanako-Nom yesterday sister-Nom   exam-Dat pass-Past   C

        sakki   kii -<u>ta</u>.

        a while ago   hear-Past

        'Hanako heard a while ago that her sister passed the exam yesterday.'

In (12a), past tense marker -*ta* appears in the embedded clause as well as in the matrix clause. These T's are specified as [+Past], so that they can sustain the time adverbs 'yesterday' and 'a while ago' respectively, as shown in (12b). Analogously, the present tense marker -*ru* may also bear a time adverb, such as *asu* 'tomorrow.'

(13) a.   Hanako-ga   siken-o   uke- <u>ru</u>   no -o   akirame   -<u>ta</u>.
       Hanako-Nom   exam-Acc   take- Pres   C -Acc   give up   -Past
       'Hanako gave up on taking the exam.'

   b.   Hanako-ga   *asu*   siken-o   uke-<u>ru</u>   no -o
       Hanako-Nom   tomorrow   exam-Acc   take-Pres C -Acc
       sakki   akirame   -<u>ta</u>.
       a while ago   give up   -Past
       'A while ago, Hanako gave up on taking the exam tomorrow.'

Keeping this in mind, let us return to Mihara's (1997) discussion. Observe that the time adverb *sengetu* 'last month' is sustained by the continuative form -*i* in the first conjunct in (14).

(14)   *Sengetu*-wa   ekimae-ni   Looson-ga   kaitens -<u>i</u>,
      last month-Top   in front of the station-at   Lawson-Nom   open   -nonFin

      raigetu-wa   SaakuruK-ga   kaitensu -<u>ru</u>   node,
      next month-Top   CircleK-Nom   open   -Pres   because

      tyottosita   kaimono-wa   zuibun   benri-ni   nar-u.
      small   shopping-Top   very   convenient   become-Pres

      'Last month, the Lawson opened in front of the station, and next month, CircleK will open, so it will become convenient for shopping."

                       (Mihara ibid.: 27)

Using other syntactic diagnostics such as gapping, Mihara convincingly argues that the continuative form in coordinate clauses are actually specified for tense　(we will review Mihara 1997 in more detail in the Appendix of this chapter).

However, the V1 in VVPs, which also takes the continuative form, cannot hold time adverbs.

● **Type A**

(15) a.　*Kinoo*　　Taroo-ga　　　Ziroo-o　　　nagur -i　　　　-taosi　-<u>ta</u>.
　　　　yesterday　Taroo-Nom　　ziroo-Acc　　hit　-nonFin　-fell　-Past
　　　　'Taroo knocked down Ziroo yesterday.'

　　b. * Taroo-ga　　　*sakki*　　　*kinoo*　　　Ziroo-o
　　　　Taroo-Nom　　a while ago　yesterday　Ziroo-Acc
　　　　nagur -i　　　　-taosi　　-<u>ta</u>.
　　　　hit　　-nonFin -fell　　-Past
　　　　(Int.) 'Taroo hit Ziroo yesterday and Ziroo fell down a while ago.'

● **Type B**

(16) a.　Hanako-ga　　　*kinoo*　　ronbun-o　　kak　-<u>i</u>　　　-oe　　　-<u>ta</u>.
　　　　Hanako-Nom　　yesterday　paper-Acc　write -nonFin　-finish　-Past
　　　　'Hanako finished writing a paper yesterday.'

　　b. * Hanako-ga　　　*sakki*　　　*kinoo*　　　ronbun-o
　　　　Hanako-Nom　　a while ago　yesterday　paper-Acc
　　　　kak　-<u>i</u>　　　　-oe　　　-<u>ta</u>.
　　　　write -nonFin　　-finish　　-Past
　　　　(Int.) 'Hanako was writing a paper yester day and finished writing a while ago.

● **Type C**

(17) a.   Ringo-ga   *kinoo*   ot -<u>i</u>   -kake   -<u>ta</u>.

        apple-Nom   yesterday   fall -nonFin -almost   -Past

        'The apple almost fell yesterday.'

    b. * Ringo-ga   *sakki*   *kinoo*   ot -<u>i</u>   -kake   -<u>ta</u>.

        apple-Nom   a while ago   yesterday   fall -nonFin   -almost   -Past

        (Int. (?)) 'The apple almost fell yesterday and fell a while ago.'

We will discuss Type D later.   As can be seen in (15)-(17), no more than one time adverb can appear with VVPs.[5]   Following Mihara, suppose that the continuative form itself may bear tense.   Then, what is the difference between the continuative form in conjuncts and VVPs?   Mihara argues that there is phonologically null Tense, which follows the continuative form in conjuncts.   In accordance with him, we assume as follows: the continuative form does have the head T, and the value of T is specified in conjuncts, while it is unspecified in VVPs, and therefore cannot sustain a time adverb.   In addition, based on the fact that the VVPs in (15)-(17) hold one time adverb, we speculate that V1-V2 as a whole has only one tense specification.

    In this subsection, based on Mihara's (1997) argument, we have examined whether V1 and V2 in VVPs each have tense specification by using time adverbs. Although it is possible for the continuative form to bear tense, we have come to the conclusion that (i) V1 in a VVP is not specified for tense; (ii) V1-V2 as a whole has one tense specification.

2.3   Inner structures of VVPs

2.3.1   Focus particles and isolated tense

    T must be specified in order to hold a time adverb, however, even if T is not specified for tense, a structure may have T^0, like in the Raising construction in

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[5] Even if the order of the adverbs is changed, the ungrammatical sentences are not salvaged.

English. In this section, we further explore T-related properties of VVPs by applying focus particles.

Japanese has focus particles such as -*sae* and *mo*, meaning 'even.' These particles may attach to a wide variety of phrases, for example, DP and PP.

(18) a. Taroo-ga   [DP mame] -<u>sae/mo</u>   tabe-ta.

       Taroo-Nom   beans   -Foc   eat -Past

       (Lit.) 'Taroo ate even beans.'

   b.   Taroo-wa   [PP doa-ni]   - <u>sae/mo</u>   e-o   kai -ta.

       Taroo-Top   door on   -Foc   picture-Acc draw -Past

       (Lit.) 'Taroo drew a picture even on the door.'

Although -*sae/mo* can attach to a word, they cannot intervene within a word. This is the reason that these particles have been utilized to test the closeness of adjacent elements (e.g. Kuroda 1981, Kageyama 1993).

(19) a.   kokuritu-tosyokan

       national   library

       'national library'

   b. * kokuritu -<u>sae/mo</u> -tosyokan

           -Foc

Kageyama discusses that a focus particle cannot intervene between V1 and V2 in VVPs, due to the morphological closeness between V1 and V2.

(20) a.   Taroo-ga   Ziroo-o   <u>naguri -taosi</u> -ta.

       Taroo-Nom   Ziroo-Acc   hit   -fell   -Past

       'Taroo knocked down Ziroo.'

b. * Taroo-ga   Ziroo-o   <u>naguri -sae   -taosi</u> -ta.

　　Taroo-Nom   Ziroo-Acc   hit   -Foc   -fell   -Past

　　'Taroo knocked down Ziroo.'

We would further take this fact to exhibit another interesting property of the focus particles: they decompose a verb phrase.   That is, a focus particle which attaches to a verb stem splits the verb from its inflectional part, in which functional categories such as T are included (Aoyagi 1998, Koizumi 1994, and Sakai 1998, among others).   As can be seen in (21b) below, when *-sae* or *-mo* attaches to the verb stem *tabe* 'eat,' the verb is separated from the past tense marker *-ta*.   Since the tense marker is a bound morpheme, *su-* 'do' is inserted for the purpose of sustaining tense, as demonstrated in (21c).   This is similar to English "*do*-insertion."

(21) a.   Taroo-ga   tomato-o   tabe   -ta.

　　　Taroo-Nom   tomato-Acc   eat   -Past

　　　'Taroo ate a tomato.'

　　b. * Taroo-ga   tomato-o   tabe   <u>-sae</u>   -ta.

　　　　Taroo-Nom   tomato-Acc   eat   -Foc   -Past

　　　　Int. 'Taroo even ate a tomato.'

　　c.   Taroo-ga   tomato-o   tabe   <u>-sae</u>   <u>si</u>   -ta.

　　　Taroo-Nom   tomato-Acc   eat   -Foc   do   -Past

　　　'Taroo even ate a tomato.'

Using this property of focus particles, we will conduct a diagnostic to examine the inner structures of VVPs.

2.3.2 The inner structure of an event

Before we proceed, considering inner structures of event here will be helpful in the following discussion. As is mentioned in Section 1, Hale and Keyser (H&K) (1993) argue that the representation of argument structure is itself a derived structure, and that possible argument structures are allowed by syntax so far as the representation is licit (see also Chapter 1). This view opened the way to bring what was assumed under lexicon to syntax. It has become possible to deal with three notions: argument structure, Lexical Conceptual Structure (LCS), and aspect, on the same working table, syntax, by mediation of the little verbs $v*/v$ (Chomsky 2001, Hasegawa 2001, and Sakai et al. 2004). A possible model is illustrated below, where primitive predicates in LCS are represented in italic in the parentheses.

(22)

	(a)	(b)	(c)	(d)
	Unergative	Transitive (i)	Transitive (ii)	Unaccusative

Type of argument
structure (cf. H&K)
=Syntactic representation

LCS
(cf. Kageyama1993,
  Ito and Sugioka 2002)

	(a)	(b)	(c)	(d)
Aspect (cf. Vendler 1967, Dowty 1979)	Activity	Activity	Accomplishment	Achievement

Little verb $v*$, in which Agentivity is encoded, is considered to correspond to DO if the complement VP does not include a state, as shown in (22a) and (22b). If the VP encompasses BE at a state, as in (22c), the Agentive $v*$ represents CAUSE (in which DO is implied). On the other hand, the little verb v, in which Agentivity is not assumed, is involved as shown in (22d), where the complement VP denotes BE at a state, and the v consequently corresponds to BECOME.[6] What will become relevant

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[6] H&K (1993) suppose that V' of an unaccusative verb implies that "an event implicates an

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below is *v*/v* alternation, which is shown in (22c) and (22d).   With this background, let us go back to our discussion on VVPs.

2.3.3   Transitivity alternation: Sakai et al. (2004)

Now we will consider how to examine the inner structures of VVPs.   The analysis in Sakai et al. (2004) is relevant here.   An important issue has been how to empirically motivate the existence of the little verb, *v*/v*, proposed in Chomsky (1995, 2001).   Hasegawa (2001) is an innovative study, which brings the little verb to the syntactic structure in Japanese and argues that non-Agentive sentences in Japanese involve *v* (see Chapter 2 for details.)   On the other hand, Stroik (2001) argues that the pro-verb *do* in *do so* substitutes the little verbs *v*/v*.   Based on these studies, Sakai et al. attempt to pin down *v*/v* in morphology, and convincingly show that transitive alternation *su-ru/nar-u* in Japanese corresponds to *v*/v*.   Let us review their discussion.

In transitivity alternation in English, verbs do not change their forms, and therefore morphemes which correspond to *v*/v* are not detectable.

- Transitivity alternation (English)
(23) a.   John <u>opened</u> the window.

     b.   The window <u>opened</u>.

In the transitive sentence in (23a), *v** should be involved, while in the unaccusative sentence in (23b), *v* is supposed to be included.   Next, observe the corresponding pair in Japanese:

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interrelation," which seems to correspond to CHANGE. A functional verb which corresponds to CHANGE or BECOME in LCS can be assumed within VP if one-to-one correspondence between syntactic structure and LCS is expected. We will leave this topic open, but see Ritter and Rosen (1998, 2000) and Yamada (2006) for treatment of telicity in syntax.

● Transitivity alternation (Japanese: with a lexical verb)

(24) a.   John -ga   mado-o   ak   <u>-e</u>   -ta.

    John -Nom   window-Acc   open   Tr   -Past

    'John opened the window.'

 b.   Mado   -ga   a   <u>-i</u>   -ta.

    window -Nom   open   Intr   -Past

    'The window opened.'

Transitivity alternation *v*/v* is morphologically visible by the morphemes *-e* and *-i*. However, this is not always the case, since morphemes change depending on verbs because of relatively complicated phonological rules.   In order to do away with such complexity, instead of verbs, Sakai et al. use stative predicates such as adjectives which are followed by *su-ru/nar-u* 'do'/'become' alternation as in (25).[7]

● Transitivity alternation (Japanese: with a stative predicate)

(25) a.   Takasi-ga   heya -o   kirei-ni   <u>si</u> -ta.

    Takasi-Nom   room-Acc   clean   ***do*** -Past

    'Takasi cleaned the room.'

 b.   Heya -ga   kirei-ni   <u>nat</u>   -ta.

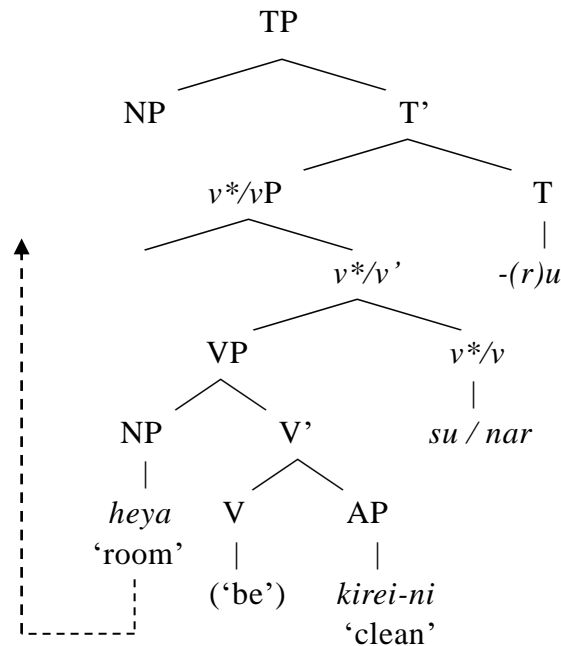   room -Nom   clean   ***become*** -Past

    'The room became clean.'

(Sakai et al. ibid.: 350)

The internal argument of the transitive sentence in (25a), *heya* 'room,' in turn becomes the subject of the unaccusative sentence in (25b), an example of transitivity alternation.

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[7] Although there have been extensive discussions on *su-ru/nar-u* alternation in research of Japanese linguistics, there seem to not be many studies which deal with *su-ru/nar-u* by systematically relating to the *v*/v* alternation itself before Sakai et. al. (2004).

Sakai et al. show that *su-ru* 'do,' taking the form *si* in (25a), is a realization of *v**. On the other hand, *nar-u* 'become,' taking the form *nat* in (25b), corresponds to *v*. Their analysis is depicted in (26):

(26)

```
                        TP
                   ┌─────┴─────┐
                  NP           T'
                          ┌─────┴─────┐
                        v*/vP          T
                     ┌────┴────┐       │
                          v*/v'      -(r)u
                      ┌─────┴─────┐
                     VP          v*/v
                  ┌───┴───┐       │
                 NP      V'     su / nar
                 │    ┌───┴───┐
               heya   V      AP
              'room'  │       │
                    ('be')  kirei-ni
                             'clean'
```

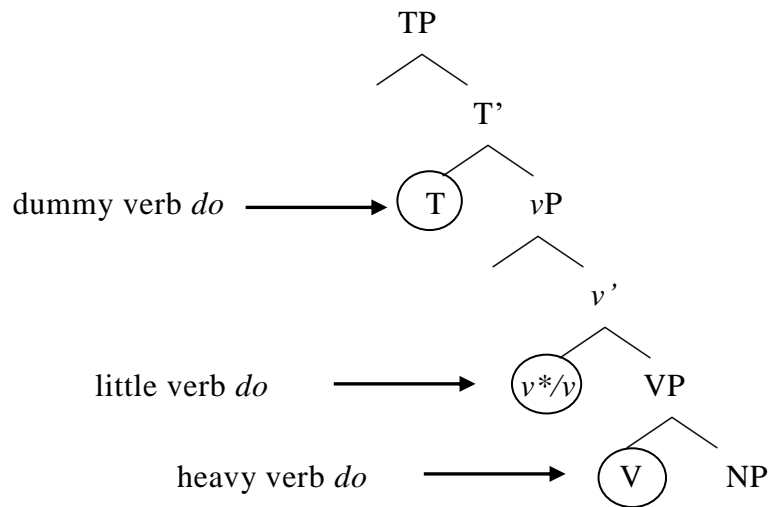(Sakai et al. ibid.: 368, 371 with modification)[8]

The transitive sentence in (25a) and its unaccusative counterpart (25b) share the base structure in (26). In (25a), the little verb *v**, realized as *su-*, is involved. The Agentive subject *Takasi* is generated in *v**P, and further raised to TP. On the other hand, in (25b), the little verb *v*, realized as *nar-*, is selected. In that case, the internal argument *heya* 'room' is raised to TP for Case, and becomes the subject. See also (22c) and (22d) in the previous section.

At the same time, Sakai et al. carefully differentiate three possibilities of the occurrence of *su-ru* 'do.'

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[8] In the original structure of Sakai et al., the VP including the abstract verb 'be' is not represented.
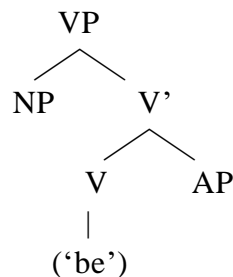
● Three possibilities of 'do' *su-ru*

(27)

```
                        TP
                       /\
                          T'
                         /\
dummy verb do ——→  ( T )   vP
                         /\
                            v'
                           /\
little verb do ——→  (v*/v)   VP
                            /\
heavy verb do ——→      ( V )   NP
```

(Sakai et al. 2004: 353)

The inner structure of the lowest VP can be like (28), which denotes a state, as illustrated in (26).

(28)

```
             VP
            /\
          NP   V'
              /\
             V   AP
             |
           ('be')
```

Following Sakai et al., we will assume that *su-ru* 'do' may replace all three categories: T, *v*/v*, and V, as illustrated in (27).   It should be noted that there are some semantic restrictions on the usage of *su-ru/nar-u* alternation.   The little verb *v** may be realized by *su-ru* when volitionality or controllability of the subject is included; *v* can be realized by *nar-u* if a result state of the subject, which is originally an internal argument, is denoted or expressed.

Stroik (2001) argues that in English, *do* may be used as a heavy verb (the main verb), an auxiliary verb, and as a little verb.   Similarly in Japanese, in addition to being a realization of a little verb in (27), *su-ru* may occur as a heavy verb, or as a dummy verb just to hold tense.   The heavy verb *do* is exemplified in (29):

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(29) Setuko-ga   doosookai -no   kanzi -o   <u>si</u> -ta.
      Setuko-Nom   class reunion -Gen   coordinator-Acc   ***do*** -Past
      'Setuko worked as the coordinator of the class reunion.'

<div align="right">(Sakai et al. ibid.: 357)</div>

In the heavy verb construction in (29), transitivity alternation, which is attested in (25), is not successful.

(30) a.   Setuko-ga   doosookai -no   kanzi -o   <u>si</u> -ta.
          Setuko-Nom   class reunion -Gen   coordinator-Acc   ***do*** -Past
          'Setuko worked as the coordinator of the class reunion.'

     b. * Doosookai-no   kanzi-ga   <u>nat</u>   -ta.
          Class reunion-Gen   coordinator-Nom   ***become*** -Past
          (Lit.) 'The class reunion coordinator became.'

<div align="right">(Sakai et al. ibid.: 357)</div>

Now, our concern is the distinction between a dummy verb, a tense holder, and a little verb, especially in the focus-particle construction, as in (31).

(31) a.   Setuko-ga   heya-o   kirei-ni   <u>si</u> -sae   <u>si</u> -nakat -ta.
          Setuko-Nom   room-Acc   clean   ***do*** -Foc   ***do*** -Neg -Past
          'Setuko did not even clean the room.'

     b.   Heya-ga   kirei-ni   <u>nari</u>   -sae   <u>si</u> -nakat -ta.
          room-Nom   clean   ***become*** -Foc   ***do*** -Neg -Past
          'The room did not even become clean.'

<div align="right">(Sakai et al. ibid.: 354)</div>

In the pair of sentences in (31), transitivity alternation between *kirei-ni si* 'cleaned the room' and *kirei-ni nari* 'the room became clean' is observed, as it was in (25). Thus, the first *si* in (31a) and *nari* in (31b) are realizations of *v** and *v* respectively. Further, the focus particle *-sae* attaches to these little verbs and separates them from Tense marker *-ta*. In order to salvage the isolated T, *si* 'do' is inserted. Assuming that there are three possibilities for the status of *si* as illustrated in (27), this *si* 'do' is supposed to be a dummy verb inserted under T as a tense holder, since this *si* 'do' does not show transitivity alternation of *v*/v*, and it is not a heavy verb. Note that Japanese is a head-final language, so a higher head comes later in phonological linearization (cf. Fukui and Takano 1998).

In summary, it is shown by Sakai et al. that: (i) 'do' which shows the transitivity alternation between *su-ru/nar-u* is a realization of *v*/v*, (ii) this *v*/v* may precede the focus particle *-sae*, (iii) *su-ru* which appears after the focus particle and does not show transitivity alternation is a tense holder inserted under T. We take (iii) to indicate the existence of T, which is important for our analysis.

Keeping this in mind, let us go back to our discussion and examine structures of VVPs. Notice that *v*/v* realized by transitivity alternation *su-ru/nar-u* 'do'/'become,' and T realized by *si* 'do'-insertion after the focus particle *-sae*, are maintained if we utilize the pro-form "*soo*"-*su-ru/nar-u* 'do so.'

(32) a. (= (31a))

        Setuko-ga   heya-o   *kirei-ni* <u>si</u> -sae   <u>si</u> -nakat -ta.

        Setuko-Nom   room-Acc   clean   ***do*** -Foc   ***do*** -Neg -Past

        'Setuko did not even clean the room.'

    b.   Hanako-mo   genkan-o   *soo*- <u>si</u>-sae   <u>si</u>-nakat-ta.

        Hanako-too   hall -Acc   so   ***do*** -Foc   ***do*** -Neg -Past

        'Hanako did not even clean the hall either.'

b'   Hanako-mo   *soo-*   <u>si</u>-sae   <u>si</u>-nakat-ta.

Hanako-too   so   ***do*** -Foc   ***do*** -Neg -Past

'Hanako did not even clean the room either.'

(33) a. (= (31b))

Heya-ga   *kirei-ni*   <u>nari</u>   -sae   <u>si</u> -nakat -ta.

room-Nom   clean   ***become*** -Foc   ***do*** -Neg -Past

'The room did not even become clean.'

b.   Genkan-mo   *soo-*   <u>nari</u>   -sae   <u>si</u> -nakat -ta.

hall   -too   so   ***become*** -Foc   ***do*** -Neg -Past

'The hall did not even become clean either.'

In the cases in (32b) and (33b), the pro-form *soo* 'so' represents V', assuming (26). It may also replace VP, including the object, for (32b') is possible.[9]

Sakai et al. mainly deal with stative predicates such as adjectives in order to pin down *v*/v* in the morphology *su-ru/nar-u*. However, it also becomes possible to separate the functional category *v*/v* from a predicate part even in verbs if we use the pro-form *soo* 'so.' *soo* 'so' replaces (part of) the lowest VP, as shown in (34b) and (35b), the representation for which are presented in (36).

(34) a.   Taroo-ga   ninzin-o   tabe-ta.

Taroo-Nom   carrot-Acc eat -Past

'Taroo ate a carrot.'

b.   Hanako-mo   *soo-*   <u>si</u> -sae   <u>si</u> -ta.

Hanako-too   so   ***do*** -Foc   ***do*** -Past
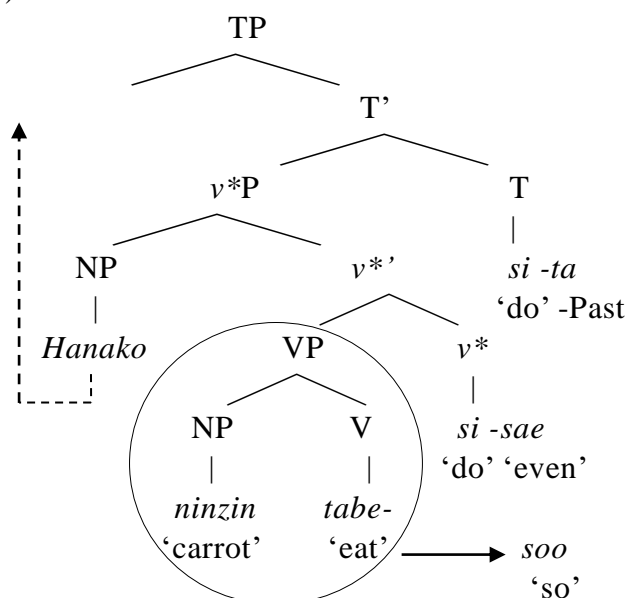
'Hanako even did so, too'

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[9] Although intermediate projections are eliminated in the Minimalist framework, we use them for explanatory reasons.

(35) a. Mikan-ga   (hako-no -naka -de)   kusat-ta.

mandarin-Nom   box -Gen-inside-at   rot -Past

'The mandarins rotted (in the box).'

b. Ringo-mo *soo-* <u>nari</u>   -sae   <u>si</u> -ta.

apple -too   so   ***become*** -Foc   ***do*** -Past
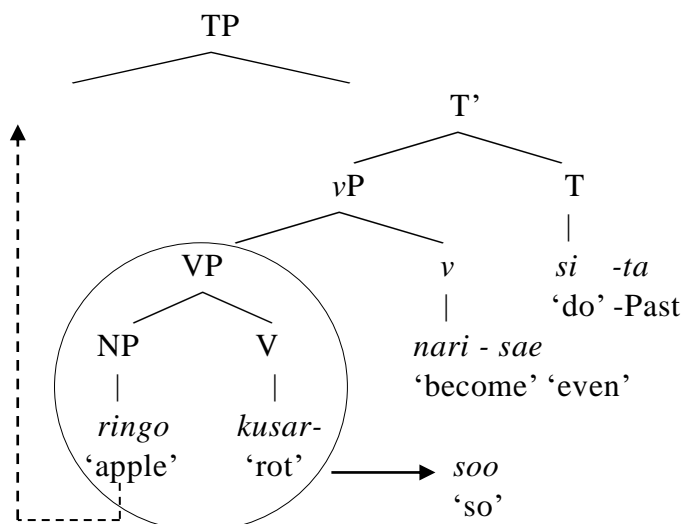
'The apples even did so, too.'

● The representation for (34b)

(36) a.

● The representation for (35b)

(36) b.

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Here, the parallel paradigms are observed; compare (32)-(33) with (34)-(35). Consequently, a generalized schema is obtained, as illustrated in (37).

● A schema to decompose a predicate

(37) Predicate   *v*/v*   Foc   T
        (VP/V')

        soo   *-si/nari*   *-sae*   *si*   *-ta*

        so   do/become   even   do   tense marker [+Past]

Thus, the diagnostic schema presented by Sakai et al. can be extended to verbs. There have been many kinds of diagnostics exploiting the proform *soo-su-ru* 'do so,' but we focus on *soo-su-ru/nar-u* alternation to show existence of *v*/v* as a category, and to separate the category from T by the focus particle *-sae*, which is put just after *v*/v*.   Exploiting the schema in (37), we will examine the inner structures of VVPs.

2.3.4   Decomposing VVPs

Let us begin with Type A.   Observe what happens if the focus particle *-sae* is attached to V1 or V2 in VVPs, which are bracketed below.   Can "*si* 'do'-insertion" salvage the VVPs?

● **Type A**   ("lexical" incorporation)

(38)   Taroo-ga   Ziroo-o   [naguri -taosi -ta].

        Taroo-Nom   Ziroo-Acc   hit   -fell   -Past

        'Taroo knocked down Ziroo.'

(39) a.   [V1-Foc   -V2-Past]

        Taroo-ga   Ziroo-o   * [naguri -sae   -taosi -ta].

                                        hit   -Foc   -fell   -Past

b. [V1-<u>Foc</u> -<u>do</u>   -V2-Past]

　　Taroo-ga　　Ziroo-o　* [naguri -<u>sae</u> -<u>si</u>　-taosi -ta].

　　　　　　　　　　　　　hit　-Foc -do　-fell　-Past

(40) a. [V1-V2-<u>Foc</u>　-Past]

　　Taroo-ga　　Ziroo-o　* [naguri -taosi -<u>sae</u>　-ta].

　　　　　　　　　　　　　hit　-fell　-Foc　-Past

　b. [V1-V2-<u>Foc</u>　-<u>do</u>-Past]

　　Taroo-ga　　Ziroo-o　[naguri -taosi -<u>sae</u> -<u>si</u> -ta].

　　　　　　　　　　　　hit　-fell　-Foc -do -Past

The sentences in (39)-(40) and their grammaticality are schematized in (41) and (42):

● **Type A**　("lexical" incorporation)

(41) a. * V1-<u>Foc</u>　　　-V2-Past

　　b. * V1-<u>Foc</u>(-<u>do</u>)　-V2-Past

(42) a. * V1-V2 -<u>Foc</u>　　　-Past

　　b. 　V1-V2 -<u>Foc</u> (-<u>do</u>)　-Past

As can be seen in (41b), 'do'-insertion which follows the Foc particle -*sae* attached to V1 cannot help the sentence. However, as in (42b), 'do'-insertion which follows the Foc particle -*sae* attached to V2 works. Before going to Type B, let us have a look at Type C. The situation is different between Type A and Type C.

● **Type C: V1-V2**　("syntactic" Raising)

(43) a. Mikan-ga　　　hako-no -naka -de　[kusari -kake　　-ta].

　　mandarin-Nom　box -Gen-inside-at　rot　be going to -Past

　　'The mandarins were going to rot in the box.'

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(44) a.　[V1-<u>Foc</u>　　-V2-Past]

　　　　　Mikan-ga　hako-no -naka -de　* [kusari -<u>sae</u>　-kake　　　-ta].

　　　　　　　　　　　　　　　　　　　　　　rot　　-Foc　be going to -Past

　　　b.　　[V1-<u>Foc</u> -<u>do</u>　　-V2-Past]

　　　　　　Mikan-ga　hako-no -naka -de　[kusari -<u>sae</u> -<u>si</u>　-kake　　　-ta].

　　　　　　　　　　　　　　　　　　　　　rot　　-Foc -do　be going to -Past

(45) a.　[V1-V2-<u>Foc</u>　-Past]

　　　　　Mikan-ga　hako-no -naka -de　* [kusari -kake　　　-<u>sae</u>　-ta].

　　　　　　　　　　　　　　　　　　　　　rot　　be going to -Foc　-Past

　　　b.　[V1-V2-<u>Foc</u>　-<u>do</u>-Past]

　　　　　Mikan-ga　hako-no -naka -de　[kusari -kake　　　-<u>sae</u>　-<u>si</u> -ta].

　　　　　　　　　　　　　　　　　　　　rot　　be going to -Foc　-do -Past

The sentences in (44)-(45) and their grammaticality are schematized in (46) and (47):

● **Type C**　("syntactic" Raising)

(46) a. * V1-<u>Foc</u>　　　-V2-Past

　　　b.　V1-<u>Foc</u>(-<u>do</u>)　　-V2-Past

(47) a. * V1-V2 -<u>Foc</u>　　　-Past

　　　b.　V1-V2 -<u>Foc</u> (-<u>do</u>)　　-Past

Importantly, as can be seen in (44b) and (46b), if the focus particle -*sae* attaches to V1, the sentence is salvaged by the following *si* 'do'-insertion.　This is impossible in Type A, as witnessed in (39b) and (41b).　How can we explain this difference?

　　　Remember that *si* 'do' which is inserted after the Focus particle -*sae* supports an

isolated functional category, *v** or T.　We speculate that there is a functional category F which follows V1 in Type C, but not in Type A.　Our argument is illustrated in (50), where irrelevant nodes are omitted.

● **Type C**　("syntactic" Raising)
(48) (for (44b) and (46b))
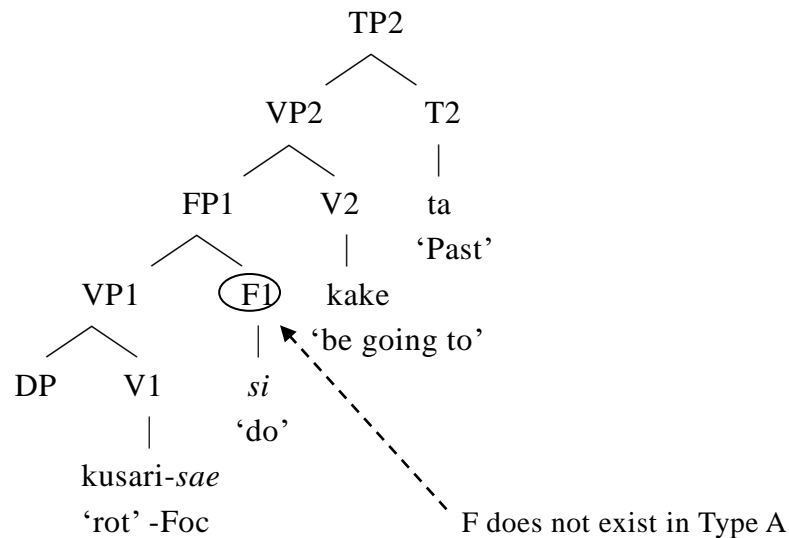
One might say that *si* 'do'-insertion in (44b) leads to grammaticality because it just retrieves V2 from standing alone.　That may well be the case (as a side-effect), but we will further reveal that the inserted morpheme is not just a "place-holder," but shows specific properties depending on F.

As is mentioned, a verb is usually a complex of V-*v*/v*, forming one predicate, and the boundary is not clear.　In order to clarify the boundary, Sakai et al. mainly deal with stative predicates such as adjectives which are followed by *su-ru/nar-u,* the realization of *v*/v*.　However, what we would like to see is not constructions involving adjectives, but VVPs including verbs.　As we have proposed, the methodological difficulty in separating V from *v*/v* and T can be solved by applying *soo* 'so'-substitution.　Once VP is replaced by the pro-form *soo* 'so,' it becomes possible to separate V from *v*/v*.　The generalized schema obtained in (37) is repeated as (49):
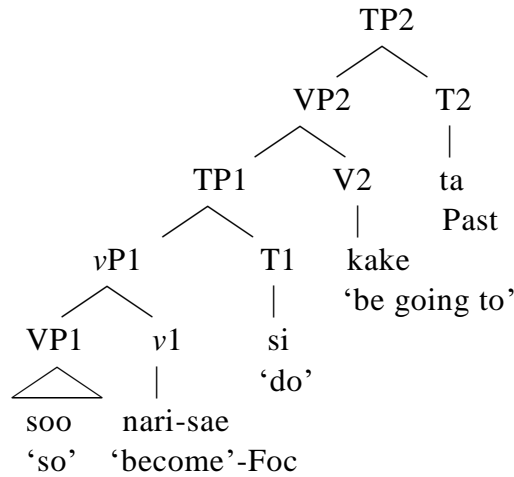
● A schema to decompose a predicate (= (37))

(49) Predicate   *v*/v*   Foc   T
         (VP/V')   ⌐\

         soo   *-si/nari*   *-sae*   <u>*si*</u>   *-ta*

         so   do/become   even   do   tense marker [+Past]

By exploiting the schema in (49), we will further decompose the Type-C construction represented in (48).   Observe that *v,* realized as *nar-u* 'become,' appears independently and precedes *si* 'do'-insertion when a focus particle is inserted, as illustrated in (50c).

(50) a.   Mikan-ga   hako-no -naka -de   kusari -kake   -ta.

           mandarin-Nom   box -Gen-inside-at   rot   be going to -Past

           'The mandarins were going to rot in the box.'

      b.   Ringo-mo   soo-   nari   -kake   -ta.

            apple -too   so   *become*   be going to -Past

            'The apples were going to do so, too.'

      c.   Meron-mademo-ga   sukosi *soo-* <u>nari</u>   -sae   <u>si</u>   kake   -ta.

            melon-also   -Nom   a little   so   *become* -Foc   *do*   be going to -Past

            'Also the melons were even going to do so a little.'

The relevant part of (50c) is depicted below:

(51)

```
                        TP2
                      /     \
                   VP2        T2
                  /   \        |
              TP1      V2      ta
             /   \      |     Past
          vP1     T1   kake
         /  \      |   'be going to'
      VP1    v1    si
      / \    |    'do'
   soo  nari-sae
   'so' 'become'-Foc
```

The verb to which the focus particle attaches is the little verb *v*, realized as *nar-u*.   In this case, the pro-verb *si* 'do' inserted after the focus particle does not show transitivity alternation.   Therefore, we conclude that *si* in (50c)/(51) is not a realization of a little verb, but rather, of T.

Again, this conclusion in turn reveals that V1 of Type-C VVPs has T, though its tense value is not specified and it cannot hold a time adverb.   In contrast, we speculated that V1 of Type-A VVPs does not have functional categories, hence there is no place to hold 'do' after the focus particle attaches to V1.   Thus, V1 of Type A is considered to be a bare verb.

2.4   Little verb in VVPs

We have discussed the existence of functional categories in the projection of V1 in VVPs.   We will further examine what functional categories are represented in the projection of V2 and V1-V2 as a whole in VVPs of each Type.   As a strategy, we again exploit transitivity alternation and examine whether a verb is interchangeable between *soo-si* 'do so' and *soo-nari* 'become so,' namely, V-*v** and V-*v*.

(52) | V1 | *v*/v* | V2 | T |
|------|------|-----|-----|
| *soo* | *si/nari* | | *ta* |
| Pred | 'do/become' | | [+Past] |

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Observe whether this schema corresponds to VVPs of each Type:

● **Type A**   ("lexical" incorporation)

(53)   Taroo-ga   Ziroo-o   naguri   -taosi   -ta.

Taroo-Nom   Ziroo-Acc   hit   -fell   -Past

'Taroo knocked down Ziroo.'

(54) a.   Kenzi-mo   * [soo- | si | -taosi   -ta   ].

Kenzi-also   so | *do* | -fell   -Past

[V1 | *v** | V2   T   ]

(Lit.) 'Kenzi did so and downed him, too.'

   b.   Kenzi-mo   [soo- | si | -ta   ].

Kenzi-also   so | *do* | -Past

[V1-V2 | *v** | T   ]

'Kenzi did so, too.'

(55)   Koppu-ga   hagesiku   korogari   -oti   -ta.

glass-Nom   roughly   roll   fall   -Past

'The glass roughly rolled down and fell.'

(56) a.   Osara-mo   * [soo- | nari | -oti   -ta   ].

dish-also   so | *become* | -fall   -Past

[V1 | *v* | V2   T   ]

(Lit.) 'The dish became so and fell, too.'

   b.   Osara-mo   [soo- | nat | -ta   ].

dish-also   so | *become* | -Past

[V1-V2 | *v* | T   ]

(Lit.) 'The dish became so, too.'

In (53)-(54), the verbs involved are transitive, and are expected to include $v*$, while in (55)-(56), the verbs are unaccusative, and are supposed to include v. When the V1 is replaced by the pro-form *soo* 'so,' it fails to be followed by *si/nari*, a realization of $v*/v$, as shown in (54a) and (56a). In contrast, if the V1-V2 as a whole is replaced by the pro-form, then it is successfully followed by *si-/nari-*, as is demonstrated in (54b) and (56b). This fact leads us to infer that V1 does not have $v*/v$ in its projection, but V1-V2, as a set, has one $v*/v$. This assumption is supported by the fact that transitivity of V1 and V2 must be coherent, a notion termed as "the transitivity harmony principle" by Kageyama (1993). Along this line, we could assume that one head $v*/v$ causes multiple Agree (cf. Hiraiwa 2001) with V1 and V2 to determine their morphological form.[10]

Interestingly, the situation is different in Type-B VVPs:

● **Type B**　("syntactic" Control)

(57)　Hanako-ga　　tukue-o　　nuri　-oe　-ta.

　　　Hanako-Nom　desk-Acc　　paint -finish -Past

　　　'Hanako finished painting the desk.'

(58) a.　Taroo-mo　　[soo- | si | -oe　　-ta　　].

　　　　Taroo-also　　so | *do* | -finish -Past

　　　　　　　　　[V1 | $v*$ | V2　　　T　　]

　　'Taroo finished doing so, too.'

　 b.　Taroo-mo　　[soo-　| si | -ta　].

　　　　Taroo-also　　so | *do* | -Past

　　　　　　　　　[V1-V2 | $v*$ | T　　]

　　'Taroo did so, too.'

---

(59) Hanako-ga   mahoo-o tukat-te otona-ni   kawari -oe   -ta.
      Hanako-Nom   magic-Acc use-by   adult-into change -finish -Past
      'Hanako changed into an adult by using magic.'

(60) a. Taroo-mo [soo- | nari | -oe   -ta].
         Taroo-also   so | *become* | -finish -Past
                   [V1 | *v* | V2   T   ]
      'Taroo finished to become so, too.'

   b. Taroo-mo [soo- | si | -ta   ].
       Taroo-also   so | *do* | -Past
                 [V1-V2 | *v** | T   ]
      'Taroo did so, too.'

(58a) and (60a) demonstrate that V1 in Type-B VVPs has *v*/v* in its projection, in contrast to V1 in Type-A VVPs, which fails to show the realization of *v*/v* in (54a) and (56a).   In Type-B VVPs, the sequence of V1-V2 as a whole also includes *v*/v,* as illustrated in (58b) and (60b).   Notably, the little verb realized after V1 may be different from that after V1-V2, as shown in (60a) and (60b) respectively.   This phenomenon reveals that a little verb is retained in V1 projection as well as in V2 projection, which readily accounts for the fact that Type-B VVPs are exempt from the transitivity harmony principle.

   It is also confirmed that Type-B VVPs do not have T in their V1 projection. Sentence (61a) shows what we have observed as (58a) and (60a), where transitivity alternation between *v*/v* is witnessed.   If the focus particle *-sae* follows *v*/v*, 'do'-insertion cannot help the sentence, as shown in (61b).

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(61) a.　Taroo-mo　　[soo　　-si/-nari　　-oe　　　-ta　　].

　　　　Taroo-also　　so　　*do/become* -finish　-Past

　　　　　　　　　　[V1　　*v*/v*　　　V2　　　T　　]

　　　'Taroo finished doing so, too.'

　　b.　Taroo-mo　 * [soo　　-si/-nari　 <u>-sae</u>　　<u>-si</u>　　-oe　　　-ta].

　　　　Taroo-also　　　so　　*do/become*　even　-do　-finish　-Past

　　　　　　　　　　[V1　　*v*/v*　　　　Foc　　T1　V2　　　T2　]

　　　'Taroo finished doing so, too.'

In (61b), V2 and T2, which cannot stand alone, safely attach to another element, so there should not be morphological problems.　The data lead us to conclude that there is no T in the V1-projection, under which -*si* 'do' would be inserted.　This contrasts with Type C, which was partially discussed in Section 2.3.4.

- **Type C**　("syntactic" Raising)

(62)　　Taroo-ga　　aruki　-sugi　　　　-ta.

　　　　Taroo-Nom　walk　over-do　　　-Past

　　　　'Taroo walked too much.'

(63) a.　Hanako-mo　　[soo | -si | -sugi　　　　-ta]　　　．

　　　　Hanako-also　　so | *do* | over-do　　-Past

　　　　　　　　　　[V1 | *v** | V2　　　　　T　]

　　　'Hanako also did so too much.'

　　b.　Hanako-mo　 * [　soo- | -si/nat | -ta　　　].

　　　　Hanako-also　　　　so | *do/become* | -Past

　　　　　　　　　　[V1-V2 | *v*/v* | 　　T　　]

　　　(Int.) 'Hanako did/became so, too.'

(64)   Zerii-ga   katamari   sugi   -ta

        jelly-Nom   hardened   over-do   -Past

        'The jelly became too hard.'

(65) a.   Aisukuriimu-mo   [soo | -nari | sugi   -ta   ].

           icecream -also   so | *become* | over-do   -Past

                              [V1 | *v* | V2   T   ]

           (Lit.) 'The icecream became so too much, too.'

     b.   Aisukuriimu-mo   * [soo | -si/-nat | -ta   ].

           icecream -also   so | *do/become* | -Past

                              [V1-V2 | *v*/v* | T   ]

           (Lit.) 'The icecream became so, too.'

The sentences in (63a) and (65a) show that V1 accommodates *v** or *v* in its projection. In contrast, the sentences in (63b) and (65b) suggest that V2 does not have a little verb. This result accounts for the fact that the transitivity harmony principle does not apply to Type C either; a sentence such as (62), where V1 is transitive and V2 is not, is possible. This has implications that concern Raising verbs; Chomsky (1995) is correct in that little verb as a category is not assumed to exist in Raising.

    Finally, we examine the existence of T in V1-projection. Compare (66) below with (61) in Type B.

(66) a.   Hanako-mo   [soo   -si/-nari   -sugi   -ta]   .

           Hanako-also   so   *do/become* over-do   -Past

                        [V1   *v**   V2   T   ]

           'Hanako also did so too much.'

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b. Hanako-mo [soo -si/-nari -<u>sae</u> -<u>si</u> -sugi -ta].

    Taroo-also   so   *do/become*   even   -do   over-do   -Past

    [V1   *v*/v*   Foc   T1   V2   T2   ]

   'Hanako also even did so too much.'

Sentence (66a) is a combination of (63a) and (65a), where the transitivity alternation between *v*/v* is attested. If *v*/v* is followed by the focus particle *-sae, si* 'do'-insertion under T is possible, as shown in (66b). This is contrastive to (61b), and leads us to consider that V1 has T in its projection in Type C.

2.5   Interim summary

The discussions so far can be summarized as follows:

(67) a.   V1-projection

	time adverbs ($= \text{T}^0$ specified)	do insertion under T ($= \text{T}^0$ exists)	realization of *v*/v* ($= v^0$ exists)
● Type A ("lexical" incorporation)	*	*	*
● Type B ("syntactic" Control)	*	*	√
● Type C ("syntactic" Raising)	*	√	√

(67) b.   V2-projection

	time adverbs ($= \text{T}^0$ specified)	do insertion under T ($= \text{T}^0$ exists)	realization of *v*/v* ($= v^0$ exists)
● Type A ("lexical" incorporation)	√	√	√
● Type B ("syntactic" Control)	√	√	√
● Type C ("syntactic" Raising)	√	√	*

The shared property between the three types is that T in the V1 projection is not specified for tense to sustain a time adverb. However, V1 of Type C has T^0 in its projection, though its tense is unspecified. As for the existence of little verb, Type-A VVPs as a whole have only one $v*/v$, which leads to the transitivity harmony principle. In contrast, Type-B VVPs have $v*/v$ for each of V1 and V2; therefore they are immune to the transitivity harmony principle. In Type-C, "Raising" verbs do not seem to have little verb as a category. We should say that unaccusative verbs have v, following Chomsky 2001, but Raising verbs are bare V, as assumed in Chomsky 1995. We are led to assign a structure for each Type as follows, where v represents the category to which $v*$ and v belong.
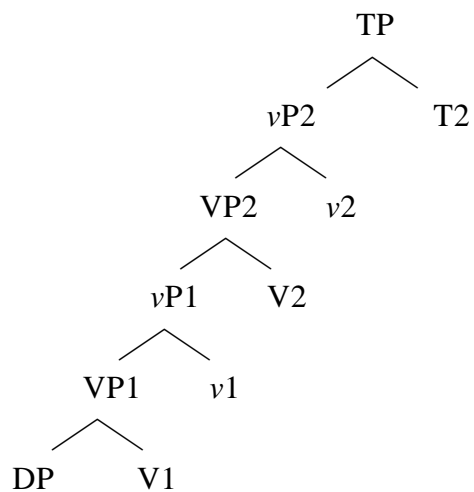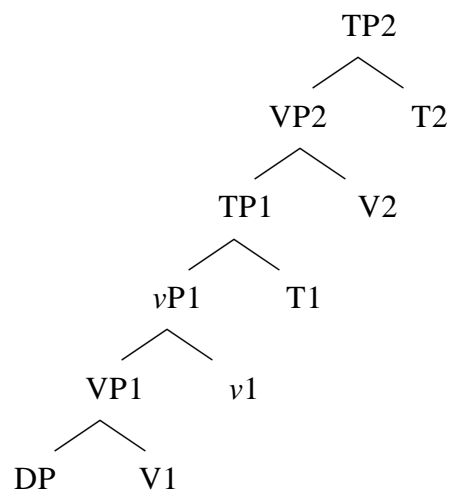
- Type A

(68)

```
                    TP
                   /  \
                vP2    T2
               /  \
            VP2    v2
           /  \
         DP    V2
              /  \
            V1    V2
```

- Type B

(69)

```
                        TP
                       /  \
                    vP2    T2
                   /  \
                VP2    v2
               /  \
            vP1    V2
           /  \
        VP1    v1
       /  \
     DP    V1
```

- Type C

(70)

```
                        TP2
                       /  \
                    VP2    T2
                   /  \
                TP1    V2
               /  \
            vP1    T1
           /  \
        VP1    v1
       /  \
     DP    V1
```

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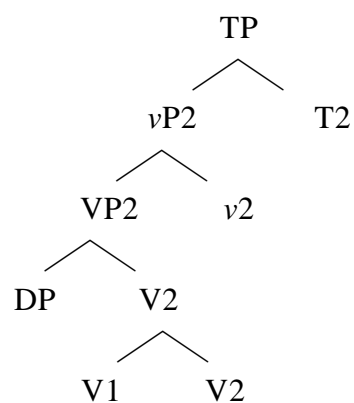
In the structures above, little verb projects Spec for Agent if it is $v*$ ($v2$ in (69) is necessarily $v*$).   Spec TP is omitted.   Concerning Type-A VVPs, Kageyama (1993) convincingly argues that the internal argument belongs to V2, not V1.

(71) a.   Yogore-o   arai   -otos   -u.
           spot-Acc   wash   off   -Pres
           'wash off the spot.'

     b. * Huku-o   arai   -otos   -u.
           clothes-Acc   wash   off   -Pres
         * 'wash off the clothes.'

The verb *ara-u* 'wash' takes *huku* 'clothes' as its internal argument, while the verb *otos-u* 'off' takes *yogore* 'spot' as its internal argument.   The contrast in (71a) and (71b) indicates that the realized internal argument of V1-V2 is the internal argument of V2, not V1.   Following Kageyama, we assume that V2 projects itself, as illustrated in (68).   On the other hand, in Type-B VVPs, the internal argument is an argument of V1, not V2, which is demonstrated below:

(72)   Taroo-ga   ronbun-o   yomi   -wasure   -ta.
        Taroo-Nom   paper-Acc   read   -forget   -Past
        'Taroo forgot to read the paper.'

As the gloss shows, the paper is what is read (=V1), but not what is forgotten (=V2). Rather, what is forgotten is 'to read the paper.'   This fact is reflected in the structure in (69).   Similarly, in Type-C VVPs, the internal argument is the argument of V1, not V2, as demonstrated in (73): 'a book' is the internal argument of V1 'read' but it is not the internal argument of V2 'be about to.'   This fact leads us to assume the structure in (70).

(73)   Taroo-ga   hon-o   yomi   -kake   -ta.

Taroo-Nom   book-Acc   read   be about to   -Past

'Taroo was about to read a book.'

2.6   Type D: V1-*te*-V2

In Types A-C, we have observed VVPs which on the surface have the same form: V1 with a non-finite form is connected to V2.   In this section, we investigate V1-*te*-V2 as Type-D VVPs.   An apparent difference between Types A-C and Type D is that Type D has *-te* between V1 and V2.

● **Type D   V1-*te*-V2**

(74) a.   V2= *-te-age-ru/yar-u*, *-te-kure-ru*, *-te-mora-u*;

give   give   get

'do for the good of'

-te-sima-u,   *-te-mir-u,*   *-te-ok-u,*   *-te-i-ru/-a-ru*

finish   see   put   be   exist

'have done'   'attempt to do'   'keep in a state'   'be kept in a state'

b.   Taroo-ga   Hanako-ni   e-o   kai   -te -age -ta

Taroo-Nom   Hanako-Dat   picture-Acc   draw *-te* -give -Past

'Taroo drew a picture for (the good of) Hanako.'

Notice that the Give Benefactive/Malefactive Construction *-te-age-ru/yar-u*, which was discussed in Chapter 3, belongs to this Type.   There are several variants of the Benefactive construction such as using *-te-kure-ru* or *-te-mora-u*, depending on pragmatic point of view or direction toward which the action goes, but these factors are also considered to relate to syntactic structures (Shibatani 1978, Machida 1998, Hasegawa 2000, and Uehara 2008, among many others).   VVPs of Type D constitute

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a closed class.   There are not many verbs other than the examples in (74a).   This fact suggests that V2 in Type-D belongs to the functional category rather than the lexical category.   Then, what is the difference between "functional" and "lexical" in this case?   We speculate that when a verb or its projection Merges to Appl, it is called "functional."   If V or VP which has a phonological form Merges to phonologically null Appl, this process is called "Appl is realized."   The verb *age-ru* was used to demonstrate this process in Section 5.7 in Chapter 3.   The verb is originally used as a motion verb, which denotes change of location corresponding to 'raise' in English. We consider that if the verb Merges to Appl, it becomes a 'give' verb, which takes a Benefactive argument, as was discussed in the GBC in Chapter 3.

(75)

	morpheme	meanings	indirect object/applied argument
V	*age*	'raise'	Goal
V-Appl	*age*	'give' 'do for the good of'	Benefactive

Similar phenomena termed "grammaticalization" or "lexicalization" are often observed in many languages.   One familiar example is the English verb *have*, which originally denotes possession, but has come to function as Appl, to introduce Experiencer and Cause (cf. Ritter and Rosen 1993, Washio 1997b, Hasegawa 2004a; see also Section 8.1 in Chapter 2).

 We represented the gloss of the donative verb in the GBC as 'Give' to avoid confusion with the "lexical" use of the verb 'give,' but now that a unitary analysis for both verbs is proposed, the gloss will be unified into 'give' in the following discussion.

2.6.1 Constituency

It has been observed that the string V1-*te*-V2 exhibits a discrepancy in constituency tests (e.g. McCawley and Momoi 1986, and Kageyama 1993).

• Focus-particle insertion test

(76) a.   Taroo-ga   Hanako-o   nade   -te   -<u>sae</u>   -age/yat   -ta.

Taroo-Nom   Hanako-Acc   pat   *-te*   -Foc   -give   -Past

'Taroo even patted Hanako for the good of her.'

  b. * Taroo-ga   Hanako-o   nade   -<u>sae</u>   -te   -age/yat   -ta.

Taroo-Nom   Hanako-Acc   pat   -Foc   *-te*   -give   -Past

The focus particle *-sae* can be inserted after the V1-*te* as in (76a), but it must not be put after the V1 as in (76b).   The fact that [V1-*te*] and V2 are separable, but V1 and [*te*-V2] are not suggests that the [V1-*te*] forms a constituent.   However, when a deletion test is applied, the result seems to be incoherent.

It is generally assumed that a constituent may undergo deletion: the sentence in (77b) is grammatical because a constituent is deleted, while (77c) is ungrammatical due to the deletion of a non-constituent.

• Deletion test

(77) a.   Taroo-wa   [PP kooen-de] utai,   Hanako-wa [PP ie-de]   utat   -ta.

Taroo-Top   park -in   sing   Hanako-Top   house -in sing -Past

'Taroo sang in the park, and Hanako sang at home.'

  b.   Taroo-wa   [PP kooen-de] ~~utai~~,   Hanako-wa [PP ie-de]   utat   -ta.

  c. * Taroo-wa   [PP kooen-~~de] utai~~,   Hanako-wa [PP ie-de]   utat   -ta.

Now, the deletion test is performed on Type-D VVPs. The deleted part "φ" in the first conjunct is underlined in the second conjunct. Nakau (1973) discusses that V2 cannot solely undergo deletion, for V1-*te*-V2 as a whole behaves like a unit.

(78) a. ?* Taroo-wa eigo-o   hanasi   φ,   Ziroo-wa Nihongo-o hanasi <u>-te -mi</u> -ta.

       Taroo-Top English-Acc speak   Ziroo-Top Japanese-Acc speak <u>*-te* -try</u> -Past

       (Int.) 'Taroo tried to speak English, and Ziroo tried to speak Japanese.'

b.   Taroo-wa   eigo-o   φ,   Ziroo-wa   Nihongo-o   <u>hanasi -te -mi</u> -ta.

      Taroo-Top English-Acc   Ziroo-Top   Japanese-Acc <u>speake *-te* -try</u> -Past

      'Taroo tried to speak English, and Ziroo tried to speak Japanese.'

                           (Nakau 1973: 260 with the relevant notation)

In addition to Nakau's insightful observation, we find that there is a semantic difference with or without *-te* in the deleted part in (78a). This point is clarified by using the 'give' verb as V1.

(79) a.   Taroo-wa   neko-o   nade -te-age, Hanako-wa   sasut -te -age -ta.

      Taroo-Top   cat-Acc   pat *-te* -give Hanako-Top   stroke *-te* -give -Past

      'Taroo patted the cat for the good of it, and Hanako stroked it for the good of it.'

b. * Taroo-wa neko-o   nade -te   φ,   Hanako-wa   sasut -te   <u>-age</u> -ta.

      Taroo-Top cat-Acc   pat *-te*   Hanako-Top   stroke *-te*   <u>-give</u> -Past

      (Int.) 'Taroo patted the cat for the good of it, and Hanako stroked it for the good

       of it.'

c.   Taroo-wa   neko-o   nade   φ,   Hanako-wa   sasut   <u>-te   -age</u> -ta.

      Taroo-Top   cat-Acc   pat   Hanako-Top   stroke <u>*-te*   -give</u> -Past

      'Taroo patted the cat for the good of it, and Hanako stroked it for the good of it.'

In the examples above, *-age* is deleted in (79b), while *-te-age* is deleted in (79c); only the former fails to obtain the intended meaning, which is indicated by "*". Note that the reading 'Taroo patted the cat, while Hanako stroked it for the good of it' is available for (79b), but it loses the original intended meaning indicated in (79a), where the Benefactive reading 'for the good of' takes scope on both the first and the second conjuncts. This phenomenon seems to suggest that *-te* and *-age* 'for the good of' also forms a constituent.

Let us consider what the data above mean. As we have discussed in the previous sections, focus-particle insertion decomposes a structure into heads, namely, separates V-*v*/v* from T. In turn, the isolated T requires 'do'-insertion, otherwise the sentence results in ungrammaticality. The schema is repeated in (80), where the pro-form *soo* 'so' is substituted for V.

(80)　　*soo*　　*-si/nari*　　　*-sae*　　*-si*　　*-ta*

　　　　Pred　　do/become　　even　　do　　tense marker [+Past]

　　　　　V　　　*v*/v*　　　　Foc　　T

This schema works with Type-D VVPs:

(81)　　*soo*　　*-si/nari*　　　*-sae*　　*-si*　　*-te*　　*-age*　　*-ta.*

　　　　Pred　　do/become　　even　　do　　*-te*　　-give　　tense marker [+Past]

　　　　　V1　　　*v*/v*1　　　Foc　　T1　　V2　　　T2

Based on the discussion in the previous sections, we consider that V1 includes T1 in its projection, and *-te* is attached to T1. When a focus particle is inserted before V2, T2 is safely sustained by V2, and the sentence is grammatical, as is the case in (76a).

Next, let us examine the deletion test conducted in (79), which is repeated below with the deleted part spelled out.

(82) a.   Taroo-wa   neko-o   nade -te-age,   Hanako-wa   sasut -te   -age -ta.

Taroo-Top   cat-Acc   pat -*te* -give   Hanako-Top   stroke -*te* -give -Past

'Taroo patted the cat for the good of it, and Hanako stroked it for the good

of it.'

b. * Taroo-wa   neko-o   nade (-te) -age,   Hanako-wa   sasut   -te -age -ta.

Taroo-Top cat-Acc   pat -*te* -give   Hanako-Top   stroke   -*te* -give -Past

(Int.) 'Taroo patted the cat for the good of it, and Hanako stroked it for the

good of it.'

c.   Taroo-wa   neko-o   nade (-te age), Hanako-wa   sasut   -te -age -ta.

Taroo-Top   cat-Acc   pat -*te* -give Hanako-Top   stroke -*te* -give -Past

'Taroo patted the cat for the good of it, and Hanako stroked it for the good
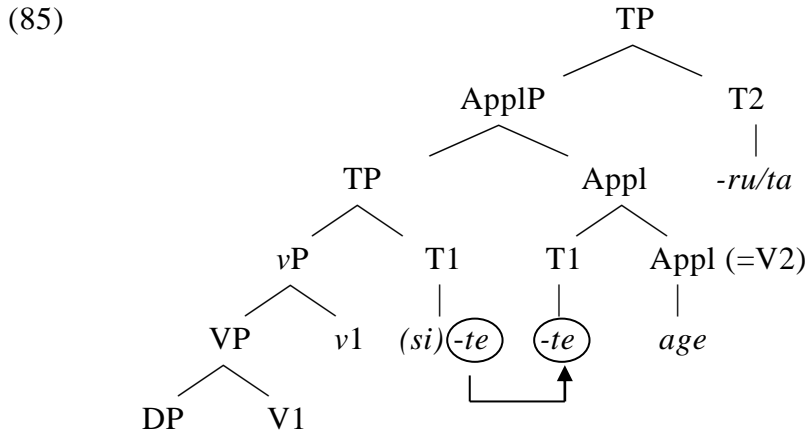
of it.'

The asterisk in (82b) indicates that the original interpretation in (82a), in which the Benefactive reading is detected in both the first and the second conjuncts, is lost. Notably, (82b) is grammatical for the interpretation that a Benefactive reading is obtained only in the second conjunct.   This observation is summarized below:

● Possible interpretations

(83) (i)   'Taroo patted the cat *for the good of it*, and Hanako stroked it *for the good of it*.'

(ii)   'Taroo patted the cat, while Hanako stroked it *for the good of it*.'

(84)		(83i)	(83ii)
(a)	Sentence (79b): *age* is deleted	*	√
(b)	Sentence (79c): *te-age* is deleted	√	√

To generalize, the Benefactive reading is available only if *-te* is attached to V2 *age* 'give' as shown in (84). We present a structure for the V1-*te*-V2 in (82), where irrelevant details are omitted.

(85)

```
                                    TP
                            ┌────────────┴──────┐
                         ApplP                  T2
                    ┌───────┴──────┐            │
                   TP             Appl        -ru/ta
              ┌─────┴────┐    ┌────┴─────┐
             vP         T1   T1      Appl (=V2)
         ┌────┴───┐      │    │          │
        VP       v1  (si)-te  -te       age
     ┌───┴──┐
    DP      V1
```

We assume that *-te* is a particle attached to T in this case. The V2 *age* 'give' is considered to be an Applicative head which forms a Benefactive construction, as we argued in Chapter 3. We speculate that what is responsible for rendering the subevent under the scope of the Benefactive reading is T raising to Appl accompanied by *-te*. As a result, *-te-age* behaves as a constituent. This T-raising makes one single event. If this operation is not achieved, *-te* remains in the projection of V1 and the events are not unified into one, but counted separately.[11] Accordingly, the Benefactive reading is not obtained in the event denoted by V1. This situation is what we witnessed in (79b) and (82b): *-te* is not raised to V2 *age*, and the Benefactive reading is not available.[12]

Based on Nakau's (1973) observation shown in (78) above and on the results of other tests, McCawley and Momoi (1986) argue that V2 in the "*-te* complement construction" obligatorily undergoes V-raising. Muraki (1978) and Miyagawa (1987) also discuss optional V-raising/Restructuring in other complement constructions. In the current analysis, we present T-raising, on which interpretation of the event relies,

---

[11] This head "incorporation" probably makes Benefactive raising possible.

[12] As for particles such as *-sae* 'even,' we assume that it may attatch to *-te* under T1, forming *-te-sae*, and be raised together to Appl (=V2), forming *-te-sae-age*, in the analogous fashion shown in (85) (see Chapter 3, Section 5.3.2 and footnote 17).

as shown in the case of deletion.   In the next section, we will discuss when T-raising takes place.

2.6.2   Properties related to single/complex event(s)

Consider the temporal interpretations with time adverbs in VVPs.   In Japanese, the position of a time adverb is fairly flexible, as shown in (86):

(86) a.   <u>Kinoo</u>   watasi-wa   Taroo-ni   e-o   kai-te -age-ta.

yesterday   I-Top   Taroo-Dat   picture-Acc draw-*te* -give-Past

'Yesterday I drew a picture for (the good of) Taroo.'

b.   Watasi-wa   <u>kinoo</u>   Taroo-ni   e-o   kai-te-age-ta.

c.   Watasi-wa   Taroo-ni   <u>kinoo</u>   e-o   kai-te -age-ta.

d.   Watasi-wa   Taroo-ni   e-o   <u>kinoo</u>   kai-te -age-ta.

e. * Watasi-wa   Taroo-ni   e-o   kai-te   <u>kinoo</u>   age-ta.

First, observe (86a)-(86d).   In these sentences, an interpretation such as 'I drew a picture yesterday, and it benefited Taroo later' or 'I drew a picture, and it benefitted Taroo yesterday' is never obtained.   Even if two different time adverbs are involved, two different temporal interpretations are impossible, as shown in (87):

(87) * <u>Ototoi</u>   watasi-wa Taroo-ni   <u>kinoo</u>   e-o   kai -te -age -ta.

day before yesterday I-Top   Taroo-Dat yesterday picture-Acc draw-*te* -give-Past

(Int.) 'I drew a picture for Taroo the day before yesterday, and it benefited Taroo yesterday.'

Thus, in V1-*te*-V2 predicates, the two events denoted by V1 and V2 must be understood to take place simultaneously and conceived of as one SINGLE event.

On   the   other   hand,   the   originally   intended   meaning   in   (86a)   becomes

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unavailable in (86e), where a time adverb separates V1-*te* from V2.   Instead, the sentence may be interpreted to involve two events, such as 'I drew a picture for Taroo, and I gave it to Taroo yesterday.'   Being understood to encompass two events, two time adverbs may appear and are each interpreted separately.

(88)   Watasi-wa <u>ototoi</u>   Taroo-ni e-o   kai-te, <u>kinoo</u> age -ta.
    I-Top day before yesterday Taroo-Dat picture-Acc draw-*te*   yesterday give -Past
    'I drew a picture for Taroo the day before yesterday, and I gave it yesterday.'

Based on the data above, we are led to consider that in the case where T of V1 is not specified and only one time adverb is sustainable in a whole VVP, T of V1 is raised to V2, and the event as a whole counts as one.   Morphologically, V1 and V2 are not separatable, for *-te* under T1 and V2 forms a constituent.   On the other hand, in the case where T of V1 is specified, and two time adverbs may be retained, T of V1 cannot be raised to V2, and events on the time axis count separated.   Here, V1 and V2 must be separated.

  An independent support exists for the constituency of *te-age* in the former case above: the string *te-age* may be contracted into *tage*.

(89) a.   Taroo-ga   Hanako-ni   e-o   kai <u>-te -age</u> -ta
    Taroo-Nom   Hanako-Dat   picture-Acc   draw *-te* -give -Past
    'Taroo drew a picture for the good of Hanako.'

  b.   Taroo-ga   Hanako-ni   e-o   kai <u>-tage</u> -ta.

Contraction in *te*-V2 is often observed.   For example, V1-*te-sima* '(regretfully) have done' is reduced into V1-*tima* or V1-*tya*; V1-*te-ok* 'keep in a state' into V1-*tok*; and V1-*te-ir* 'be in a state' into V1-*ter* (cf. "vowel fusion" in Hasegawa 2006). Contraction of *-te-age* 'do for the good of,' as in (89b), is not allowed if *-te* and *age* are divided by a comma, forming coordination of two events.

● Coordination

(90) a. Taroo-ga   Hanako-ni   e-o   kai -<u>te,   age</u> -ta.

        Taroo-Nom   Hanako-Dat   picture-Acc   draw *-te*   give -Past

        'Taroo drew a picture for Hanako, and gave it to her.'

    b. * Taroo-ga   Hanako-ni   e-o   kai -<u>tage</u> -ta.

V2 in (90) is independent from V1 and T1, and it maintains the arguments, as in (91b):

(91) a. Taroo-ga   Hanako-ni   e-o   kai -te,   age -ta.

        Taroo-Nom   Hanako-Dat   picture-Acc   draw *-te*   give -Past

        'Taroo drew a picture for Hanako, and he gave it to her.'

    b. Taroo$_i$-ga   Hanako-ni   e$_j$-o   kai -te,

        Taroo-Nom   Hanako-Dat   picture-Acc   draw *-te*

        pro$_i$ Yukiko-ni   sore$_j$-o   age -ta.

        pro-Nom   Yukiko-Dat   it -Acc   give-Past

        'Taroo drew a picture for Hanako, and he gave it to Yukiko.'

Spelling out the covert arguments is impossible for the verb *age* 'give' in (89), since the structure is built up as depicted in (85), and no position is found to realize its arguments.

3   Conclusion and Implication

Going back to the issues addressed in Section 1, how can we answer the first issue: Are VVPs created in lexicon or in syntax? As has been discussed, more than one lexical and functional verbs can Merge and dynamically create argument structure as phrase structure in syntax. This is one of our main claims. Further, we have shown that the interface between lexicon and syntax exists not on a border where these

two components meet, but rather, the interface exists in each head-head relationship between "lexical" V and "functional" little verb in the course of the derivation. In this sense, it is not the "interface," but "interfaces."
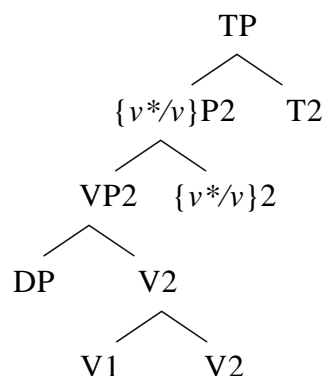
Let us turn to the second issue: What counts as one single event/argument structure? How do the layered verbs count as one event as a whole? We have argued that there must be one and only one specified T to complete one event. We have argued that properties of a predicate are determined by the way that verbs, little verbs, and T Merge. It could be Merge between two heads, or Merge between a head and a projection of another head. In the literature, many types for complex verbs have been assumed: "lexical" or "syntactic" with respect to components/levels where they are produced, and "incorporation" or "complementation" with respect to structures. However, all these types can be reduced to just one notion: "Merge." We have argued that syntax takes care of properties which tend to be regarded as "lexical." In other words, the difference in the way verbs Merge raises many different properties, some of which seem to be "lexical." Having investigated VVPs, we are led to the following conclusions:

(92)

(a) V1-V2 as a whole Merges to only one little verb, thus, the "transitivity harmony principle" follows. When two verbs Merge, the latter one is projected because Japanese is a head-final language (Kageyama 1993). Thus, V2 projects and realizes its internal argument.
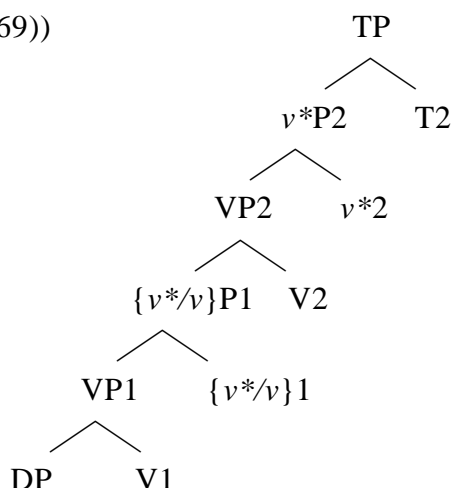→ Type-A VVPs are generated as below.

(b) (= (68))

```
                          TP
                         /  \
                  {v*/v}P2    T2
                   /  \
                VP2    {v*/v}2
                /  \
              DP    V2
                   /  \
                 V1    V2
```

(93)

(a) V1 and V2 each Merges to a little verb, in contrast to (92). However, V1-$\{v^*/v\}$ does not Merge to T, which is considered to lead to failure in introducing its own overt subject. In turn, it must be "Controlled" by another element. In other words, the subject of V1 and the subject of V2 must be identical and the former must be identified by the latter. V2 Merges to v^* and introduces a "Controller." If V2 Merges to v, the sentence fails because of the lack of a Controller.

→ Type-B VVPs are generated as below.

(b) (= (69))

```
                          TP
                         /  \
                      v*P2   T2
                      /  \
                   VP2    v*2
                   /  \
           {v*/v}P1    V2
            /   \
         VP1   {v*/v}1
         /  \
       DP    V1
```
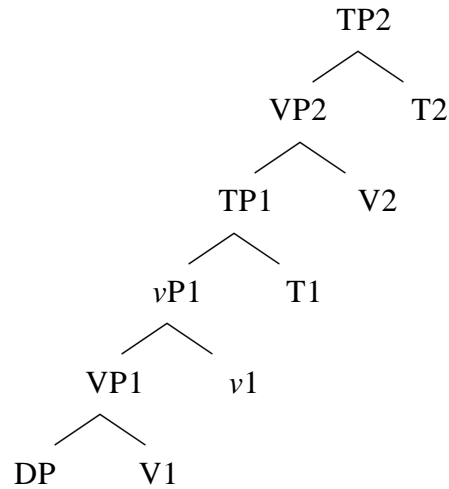
(94)

(a) V1 Merges to a little verb, which further Merges to T, in contrast to (93). This V1-$\{v/v^*\}$-T accommodates a subject. However, V2 does not Merge to a little verb, and fails to introduce a subject. Again, the subject of V1 and the subject of V2 must be identical, but the latter must be identified by the former in contrast to (93).   This results in "Raising."

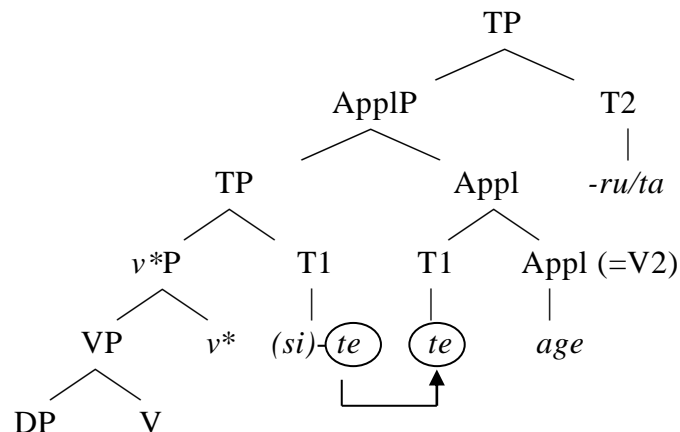→ Type-C VVPs are generated as below.

(b) (= (70))

```
                    TP2
                   /    \
                VP2      T2
               /   \
            TP1     V2
           /   \
         vP1    T1
        /   \
     VP1     v1
    /   \
  DP     V1
```

(95)

(a)   V1-{*v*/v*} Merges to T, and T further Merges to V2, namely, Appl.   This derivation leads to the interpretation that the subevent TP benefits someone.

A "lexical" verb becomes "functional" by Merging to a phonologically null Appl, as we saw in (75).   Due to this process, Appl head appears to be realized by the same morpheme as the "lexical" verb.

→ Type-D VVPs are generated as below.

(b) (= (85))

```
                              TP
                            /    \
                      ApplP      T2
                     /     \       |
                  TP       Appl   -ru/ta
                 /   \     /    \
              v*P    T1  T1    Appl (=V2)
             /   \    |   |      |
           VP    v* (si)-te  te  age
          /  \
        DP    V
```

Based on (93) and (94), we speculate that only a full-fledged V-{*v*/v*}-T can accommodate its own overt subject.

We should note that all these VVPs, Types A-D, involve two verbs, but are interpreted to denote a complete SINGLE event integrating subevents in the same way as one predicate does (e.g., an accomplishment verb including a change of state as a subevent).   This fact is explicitly described by Kageyama (1993), and is summarized in the following:

Two compounded verbs form a single verb as a whole to denote one event.   Consider an example:

ki   -o   kiri   -tao   -su
tree-Acc   cut   fell   Pres
'to cut down a tree'

In this event, the action *kir-u* 'to cut' directly causes the event *tao-su* 'to fell a tree.'   The actions 'to cut' and 'to fell' cannot be established separately.   If a tree which had been cut yesterday fell down because of strong wind last night, the one verb *kiri-tao-su* 'to cut down' could not be used to express these events.   Since *kiri-tao-su* 'to cut down' is one word, it denotes one event as a whole.   There must be only one Agent, and more than one subject is impossible:

*Taroo-ga   Ziroo-ga   ki-o   kiri   -taosi   -ta
Taroo-Nom   Ziroo-Nom   tree-Acc   cut   fell   Past

Equally, both actions, 'cut' and 'fell,' must apply to a single Theme:

*Taroo-ga   sakura-no-ki-o   matu-no-ki-o   kiri -taosi -ta
Taroo-Nom cherry-Gen-tree-Acc pine-Gen-tree-Acc cut   fell -Past
(Int.) 'Taroo first cut into a cherry tree, then made a pine tree fall.'

(A summary of Kageyama 1993: 107)

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We have stated that there must be one and only one specified T to complete one event. So long as the specified T does not Merge, little verbs may be layered and continue to build up an event:

(96) a. Taroo-ga   ki-o   kiri -taosi -hazime -kake -te   -age -ta

       Taroo-Nom   tree-Acc cut   -fell   -begin -be about to -give -Past

       (Lit.) 'Taroo was about to begin to cut and fell trees for the good of someone.'

    b. Taroo-ga ki-o   kiri -taosi -te -age -kake   -hazime -ta

       Taroo-Nom tree-Acc cut   -fall   -give -be about to -begin   -Past

       (Lit.) 'Taroo began to be about to do something, that is to cut and fell trees for the good of someone.'

At the end, the specified T finally closes the event.

       Second, the (argument) structures of the verbs must be amalgamated, but a question arises about when this takes place. Based on the discussion above, we are led to answer: "when V-$\{v*/v\}$-T is not full-fledged." Now that argument structures are derivationally and flexibly built up, we should detect the driving force of deriving structures: that is, lack of functional categories or lack of their values. In other words, at least one full-fledged V-$\{v*/v\}$, and one-and-only-one specified T are required to count as one complete single event.

       Incidentally, there is no "lexical" or "syntactic" difference, but lack of $\{v*/v\}$ or T looks "lexical," which leads to a change in syntactic/semantic properties of a verb. Differences in the way of Merge explains semantic differences in compositionality.

(97) a. Taroo-ga   ie-ni   hon-o   oki -wasure -ta.

       Taroo-Nom   home-at   book-Acc   put -forget -Past

       'Taroo left a book at home.'

b. Taroo-ga   tegami-o   kaki-wasure-ta.

    Taroo-Nom   letter-Acc   write -forget -Past

    'Taroo forgot to write a letter.'

(Based on Kageyama 1993: 84)

As is pointed out by Kageyama, what was forgotten in (97a) is a book; *Taroo* brought it home and forgot to take it with him. In our hypothesis, this interpretation results from Type-A Merge. On the other hand, what was forgotten in (97b) is to write a letter. This interpretation results from Type-B Merge.[13]

One would wonder how we should deal with so-called Control construction, exemplified by (98), in comparison with the Type-B Merge in (97b).

(98)   Taroo-ga   tegami-o   kak-u -<u>no</u> -o   wasure-ta.

      Taroo-Nom   letter-Acc   write   *no* -Acc   forget-Past

      Taroo forgot to write a letter.

Note that *no* appears in (98), which is often analyzed as C (Nakau 1973, Kuno 1973, Inoue 1976, Shibatani 1978, among many others). Moreover, V1 *kak-u* 'write' may bear Past tense *kai-ta* 'wrote.' It may be a possible analysis that C-T is involved and plays an important role in Control of this type as well as in English infinitives which are generally called the "Control construction" (cf. Okura 2003). This is an area for future research.

Appendix to Chapter 4

T in Non-Finite Forms: Mihara (1997)

In this chapter, we have assumed unspecified T in a non-finite verb form. Questions which may arise are the following: Do non-finite forms contain T? Is T necessary? Can T be specified? In this section, we will show that the answer to all

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[13] The verb *wasure-ru* typically generates Type-B VVPs.

these questions is "yes," by reviewing Mihara (1997) (referred to in Section 2.2). Mihara argues that T exists in a non-finite form; moreover, it is specified in certain cases.

Tense in non-finite forms was conventionally assumed to not be specified. However, it has been noticed that certain infinitives in English obtain future temporal interpretation, which further leads to the claim that T in the Control infinitival construction is [+Tense] (Martin 1996, 2001).

Turning to Japanese, the non-finite form "ren'yoo-kei" 'continuative form,' which we discussed in the previous sections, is also generally regarded as not being specified for tense.   However, Mihara (1997) provides the substantial argument that non-finite forms in the first conjunct in coordination have independent tense.   Mihara deals with non-finite bare clauses, which are followed by a comma without *–te*, as illustrated in (99):

● A bare non-finite clause

(99)   Watasi-wa   kissaten-ni   <u>hair-i,</u>   koohii-o   tyuumonsi-ta.

         I-Top   coffee shop-in   enter-nonFin   coffee-Acc   order-Past

         'I entered a coffee shop, and ordered coffee.'

                                                                                  (Mihara 1997: 25)

The non-finite clauses, with or without *-te*, do not seem to differ in interpretation so far as the examples which we deal with here, so Mihara's discussion will be applied to our argument.   In the following, Mihara's example sentences will be borrowed, adding *-te*.

To begin with, Mihara observes that a certain continuative form can bear a time adverb.   He discusses that temporal interpretations may be different in the first and the second conjuncts, as shown in (100).

(100)　Watasi-wa　<u>Kinoo</u>　　　e-o　　　　kaki, / kai-te

　　　　I -Top　　yesterday　picture-Acc　draw-nonFin/-*te*

　　　　<u>sakki</u>　　　(sore-o)　(Taroo-ni)　watasi-ta.

　　　　a while ago　it-Acc　　Taroo-Dat　　pass-Past

　　　　'I drew a picture yesterday and passed it (to Taroo) a while ago.'

　　　　　　　　　　　　　　(Original example based on Mihara's observation)

In (100), the time adverb *kinoo* 'yesterday' is included in the first conjunct, and another time adverb *sakki* 'a while ago' appears in the second conjunct. Thus, the time of the events are different.

　　　Not only does Mihara find that different temporal interpretations in two conjuncts are possible, he also clarifies that what is responsible for this difference in temporal interpretations is in fact tense T, a grammatical category. Evidence for his argument comes from "gapping" (deletion). Gapping is a phenomenon typically observed in coordination as in (101):

　● Gapping

　(101) a.　Taroo-wa　koohii-o [nom-i/non-*de,*] Hanako-wa aisutii-o　　non-da.

　　　　　Taroo-Top　coffee-Acc drink-nonFin/-*te* Hanako-Top iced tea-Acc drink-Past

　　　　　'Taroo drank coffee, and Mary drank iced tea.'

　　　b.　John drank coffee, and Mary [drank] iced tea.

　　　　　　　　　　　　　　　　　　　(Mihara ibid.: 26)

When the same verb is repeated, the verb in the first conjunct can be deleted in Japanese as shown in (101a), whereas in English the verb in the second conjunct can be deleted as in (101b). The deletable verb is indicated by square brackets. In the research on gapping, the parallelism constraint, which requires the deleted elements be

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identical to the antecedent, is observed (cf. Sag 1976, Williams 1977, Rooth 1992, Fiengo and May 1994, and Kyle Johnson 1997).   Keeping this constraint in mind, observe the sentences in (102):

● Gapping is not allowed

(102) a.   <u>Sengetu-wa</u>   ekimae-ni   Looson-ga   *[kaitensi(-te)],
　　　　　last month-Top   in front of the station-at   Lawson-Nom   open-nonFin-*te*

　　　　　<u>raigetu-wa</u>   SaakuruK-ga   kaitensu-ru   node,
　　　　　next month-Top   CircleK -Nom   open-Pres   because

　　　　　tyottosita   kaimono-wa   zuibun   benri-ni   nar-u.
　　　　　small   shopping-Top   very   convenient   become-Pres

　　　　　'Last month, the Lawson opened in front of the station, and next month, CircleK will open, so it will become convenient for shopping."

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(Mihara ibid.: 27)

　　　b.   Mein kaijyoo -de -wa, <u>kinoo-wa</u>   kakutoogi-ga   *[kaisai-sare(-te)],
　　　　　main stadium -in -Top   yesterday-Top martial arts-Nom hold-Pass-nonFin-*te*

　　　　　<u>asu-wa</u>   taisoo-kyoogi-ga   kaisai-sare-ru.
　　　　　tomorrow-Top   gymnastics-Nom   hold-Pass-nonFin-Pres

　　　　　'In the main stadium, martial arts were held yesterday, and gymnastics will be held tomorrow.'

In the Japanese tense system, the past tense marker *-ta* is used for [+Past], whereas the present tense marker *–(r)u* is used for [-Past], namely, for present and future time.
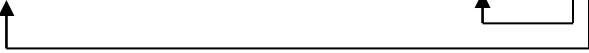
● The tense system in Japanese

(103) (= (9))

	morpheme	tense value	temporal interpretation	aspectual interpretation
a.	*-ta*	[+Past]	<u>past</u>	perfect
b.	*-(r)u*	[-Past]	<u>future</u>, <u>present</u>, or <u>unspecified</u>	imperfect

Returning to the sentences in (102), it is observed that different time adverbs are used in the first conjunct and the second conjunct. In (102a), the first conjunct includes the time adverb 'last month,' and the second conjunct includes 'next month.' Interestingly, gapping of bracketed parts is not allowed in this case, in contrast to (101a). Mihara attributes this fact to a violation of the identity restriction, because tense specification is not identical in the first and the second conjuncts: The first conjunct is [+Past], while the second conjunct is [-Past]. We present another example, (102b), which demonstrates the same point to support Mihara's argument: the first conjunct involves 'yesterday,' whereas the second conjunct includes 'tomorrow,' and deleting the bracketed elements is not possible, due to the different tense specifications.

Notice also that the sentences in (102) are grammatical without gapping. This fact refuses the bound/distributed tense hypothesis of the coordination, in which the matrix tense value is distributed to the coordinated clauses across the board (ATB) as illustrated in (104); the hypothesis predicts that the two conjuncts have the same tense value, contrary to the fact in (102), as pointed out by Mihara.

● The bound/distributed tense hypothesis

(104) [Taroo-wa   koohii-o   <u>nom-i</u>,   Hanako-wa   aisutii-o   <u>nom</u>-]   <u>da</u>.

     [Taroo-Top coffee-Acc <u>drink-φ</u>   Hanako-Top ice tea-Acc <u>drink-φ</u>] [+Past]

'Taroo <u>drank</u> coffee, and Mary <u>drank</u> iced tea.'

In addition, in a case where the tense specification [+Past] is the same in the first and second conjuncts, deletion is permitted, even if the times denoted by the adverbs are not identical.

(105) a.   Taroo-wa   kinoo   koohii-o   [nom-i,/non-*de*]

        Taroo-Top   yesterday   coffee-Acc drink-nonFin/-*te*

        Hanako-wa   sakki   aisutii-o   non-da.

        Hanako-Top   a while ago   iced tea-Acc   drink-Past

        'Taroo drank coffee yesterday, and Mary drank iced tea a while ago.'

This fact shows that what is relevant to the parallelism constraint is Tense as a grammatical category, but not time as a temporal interpretation.   Mihara concludes that non-finite forms actually bear tense specification of T.

In summary, we have observed that specification for tense can be different in the first and second conjuncts, which leads us to conclude that a non-finite –*te* clause may have its original tense value and the head T.   Accordingly, it is reasonable to assume the existence of the functional category, T, in non-finite form V1-*te*-V2 VVPs, though the value of which may be unspecified.