Aspectual Verbs as Functional Heads: Evidence from Japanese Aspectual Verbs

Shin Fukuda

Abstract A novel analysis of aspectual verbs is proposed according to which aspectual verbs are heads of functional projections rather than main verbs taking clausal complements. As a case study, four Japanese aspectual verbs are analyzed: those that express inception (*hajime-* 'begin'), continuation (*tsuzuke-* 'continue'), and termination (*oe-* 'finish', and *owar-* 'end'). Employing data from previous studies, Japanese aspectual verbs are shown to exhibit the following two characteristic behaviors: (i) they occasionally exhibit mono-clausal properties, and (ii) they impose different selectional restrictions on their verbal complements. These behaviors are characteristic of aspectual verbs cross-linguistically. This paper argues that these behaviors of Japanese aspectual verbs are accounted for if they are analyzed as heads of *aspect phrases*, the functional heads that encode aspectual information about events. In particular, it is proposed that (a) aspect heads occur in two positions in a clause, where they select for syntactic realizations of different event types, and (b) individual aspectual verbs are distributed differently between these two head positions based on the event types they select. The proposed analysis is shown to account for previously unaccounted for correlations between passivizability of the aspectual verbs and the event types of the verbal complements, as well as interactions between the Japanese aspectual verbs, subject honorification, and the focus particle *-dake* 'only'. Finally, cross-linguistic data from previous studies on aspectual verbs in German, Italian and other Romance languages, and Basque are discussed and shown to provide further support for the proposed analysis.

1 Introduction

Aspectual verbs are commonly used to encode distinctions among different types of situations—that is, they lexicalize aspects of *situation aspect* (Smith 1991). Many languages have aspectual verbs that lexicalize core aspectual distinctions such as inception ('begin'), continuation ('continue'), and termination ('finish'), as shown in the following example from Japanese:

(1) Taro-ga sono hon-o   yomi   -hajime/tsuzuke/oe/owar   -ta.
     T-NOM   that book-ACC read   -begin/continue/finish/end -PST
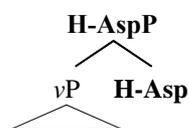   'Taro began/continued/finished/was done reading the book.'[1]

This study addresses two behaviors that are common among aspectual verbs across languages. First, as a natural class, aspectual verbs are often listed as *restructuring verbs*, which are verbs whose apparent clausal complements fail to constitute clausal domains. The restructuring behaviors of aspectual verbs have been reported in studies that investigated languages from genetically and geographically diverse families, including Austronesian (Chung 2004), Germanic (Wurmbrand 2001), Romance (Aissen and Perlmutter 1976, 1983; Strozer 1976; Rizzi 1978, 1982; Zagona 1982; Burzio 1986; Moore 1996; Cinque 1999, 2003, 2004), Dravidian (Agbayani and Shekar 2008), and language isolates such as Basque (Arregi and Molina-Azaola 2004) and Japanese (Shibatani 1973, 1978; Kuno 1987; Kageyama 1993, 1999; Nishigauchi 1993; Koizumi 1994, 1995, 1998; Matsumoto 1996). Second, many of these same studies report that not all aspectual verbs in a given language exhibit restructuring behaviors. These two observed behaviors raise the following questions: (i) why do aspectual verbs as a natural class often exhibit restructuring behaviors? And (ii), why do individual aspectual verbs exhibit syntactic differences?

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[1] The following abbreviations are used in this article: ABS = absolute, ACC = accusative, APPL = applicative, AGR$_A$ = absolutive agreement, AGR$_D$ = dative agreement, AGR$_E$ = ergative agreement, ASP = aspect, BY = *by*-phrase marker, CAUSE = causative, CL = classifier, COMP = complementizer, DAT = dative, ERG = ergative, GEN = genitive, GER = gerundive, HON = honorific, LOC = locative, NF = non finite, NOM = nominative, PASS = passive marker, PL = plural, POT = potential, PRS = present tense, PST = past tense, TOP = topic marker.

This paper analyzes four aspectual verbs from Japanese that encode the core aspectual distinctions: *hajime-* 'begin', *tsuzuke-* 'continue', *oe-* 'finish', and *owar-* 'end'. I argue that the restructuring behavior commonly exhibited by aspectual verbs as a natural class, and the differences among them in terms of their syntactic behavior, can be accounted for by analyzing aspectual verbs as functional heads that closely interact with the underlying structure of simple sentences. In particular, I argue that aspectual verbs are functional heads that encode aspectual information about events, or *aspect heads* (Travis 1991 and Borer 1994, 1998). According to my analysis, aspect heads select for a syntactic representation of events. When an aspect head selects for any durative event type (i.e., an activity, iterative achievement, or accomplishment), it takes the entire syntactic representation of the event as its complement. I call this instantiation of aspect head *H(igh)-Asp(ect)* (2a). When an aspect head is H-Asp, it is outside the underlying structure of simple sentences and does not exhibit restructuring behaviors. When an aspect head selects for a telic durative event type (i.e., accomplishments only), it takes the inner structure of the syntactic representation of the accomplishment event (i.e., VP embedded under *v*). I call this instantiation of aspect head *L(ow)-Asp(ect)* (2a). In this case, the aspect head is inside the underlying structure of a simple sentence. Therefore, it exhibits restructuring behaviors.

(2)   a.   H-Asp   b.   L-Asp

        H-AspP   *v*P
       /\   /\
    *v*P **H-Asp**   Subj *v*'
    /\   /\
                       L-AspP *v*
                       /\
                    VP **L-Asp**
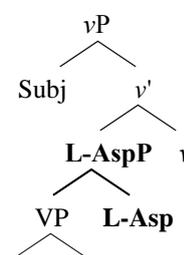
As will be shown in this paper, individual Japanese aspectual verbs impose different semantic restrictions on their verbal complements. Some aspectual verbs select for all three types of events (activities, achievements, and accomplishments) while others only select for one type of event (e.g., accomplishments). Because of their distinct semantic selections of a verbal complement, individual Japanese aspectual verbs are distributed differently between H-Asp and L-Asp. I argue that this is why they exhibit different syntactic behaviors.

This study has two major theoretical implications. First, it offers novel arguments for the hypothesis that there are functional heads that encode aspectual properties of events within and around the underlying structure of simple sentences (Travis 1991, 2000, 2005; Borer 1994, 1998, 2005; McClure 1995; Ramchand 1997, 2008; Diesing 1998; Ritter and Rosen 1998; van Hout 2000; Svenonius 2002; Nelson 2003; McIntyre 2004; Thompson 2005; MacDonald 2006, 2008; among others). In particular, this study argues that these functional heads can be occupied by overt elements, namely aspectual verbs. Second, this study contributes to the recent debate about the syntactic status of restructuring verbs as functional heads or lexical verbs (Cardinaletti and Giusti 2001; Wurmbrand 2001, 2004; Cinque 2003, 2004; among others). Specifically, this study argues that Japanese aspectual verbs are functional heads, and argues against the traditional analysis of aspectual verbs as lexical verbs that select for a clausal complement (i.e., control and raising verbs; see Shibatani 1978; Kageyama 1993, 1999; Nishigauchi 1993; Koizumi 1994, 1995, 1998; Matsumoto 1996; among others).

The paper is structured as follows. Section 2 presents the key data motivating the analysis proposed in this study. The data show that the four Japanese aspectual verbs, *hajime-* 'begin', *tsuzuke-* 'continue', *oe-* 'finish', and *owar-* 'end' exhibit different syntactic behaviors with respect to passivization, and they also impose different semantic restrictions on their verbal complements. Section 3 presents the proposed analysis of Japanese aspectual verbs as the functional heads L-Asp and H-Asp. Section 4 provides three supporting arguments for the proposed analysis from (i) additional passive data, (ii) subject honorification, and (iii) the focus marker *-dake* 'only'. Section 5 presents arguments against the traditional analysis of Japanese aspectual verbs as control and raising verbs, and provides arguments for the functional status of these aspectual verbs. Section 6 reviews three previous studies on aspectual verbs from other languages in order to show that the proposed analysis is not only compatible with the findings from these studies, but also that it is supported by them. Section 7 concludes.

2 Syntactic and Semantic Differences among the Four Japanese Aspectual Verbs

In this section, two key data sets are introduced to illustrate syntactic and semantic differences among Japanese aspectual verbs *hajime-* 'begin', *tsuzuke-* 'continue', *oe-* 'finish', and *owar-* 'end': (i) the distribution of the passive morpheme *-(r)are-*, and (ii) selectional restrictions imposed upon the verbal complements.

2.1 The Syntactic Differences: Passivization

One of the most compelling and frequently discussed pieces of evidence for the distinct syntactic behavior of the four Japanese aspectual verbs under discussion is their interaction with the passive morpheme *-(r)are-* (Shibatani 1973, 1978; Kuno 1987; Miyagawa 1989; Nishigauchi 1993; Kageyama 1993, 1999; Matsumoto 1996; among others). It has been shown that three of the four Japanese aspectual verbs, *hajime-* 'begin', *tsuzuke-* 'continue', and *owar-* 'end', can have a verbal complement that is passivized ((3a) and (3b)). This observation by itself is unremarkable if one assumes that these Japanese aspectual verbs select for a clausal complement. However, under such an assumption, it is surprising that *oe-* 'finish' cannot have a passive complement (3c).

(3) a. Mise-no   garasu-wa   booto-ni   war -**are** -<u>hajime/tsuzuke</u>   -ta.
      store-GEN glass-TOP   rioter-BY   break -**PASS** -begin/continue   -PST
      'The store windows began/continued to be broken by the rioters.'

<div align="right">(Shibatani 1973:85; (ex.35b))</div>

    b. Sono   machi-ga koogekis -**are** -<u>owar</u> -ta.
       that   city-NOM attack   -**PASS** -end -PST
       'That city was done being attacked.'

<div align="right">(Matsumoto 1996:178; (ex.13a))</div>

    c. *Natsuko-to Tsuyoshi-no   kutsu-ga   migak -**are** -<u>oe</u> -ta.
       N-and   T-GEN   shoes-NOM   polish -PASS -finish-PST
       ('Natsuko and Tsuyoshi's shoes finished being polished.')

<div align="right">(modified from Shibatani 1978:152; (ex.219))</div>

What is interesting about *oe-* 'finish' is that, while it is incompatible with a passive complement, it allows what is commonly known as long passive, which is the promotion of an embedded object to the matrix subject position when the passive morpheme is attached to the aspectual verb itself.

(4) Sono rombun-ga (John-niyotte)   yomi -<u>oe</u> -**rare** -ta.
    that paper-NOM (J-BY)   read -finish -**PASS** - PST
    'The paper begun/continued/finished being read by John.'

<div align="right">(Nishigauchi 1993:79; (ex.1))</div>

In (4), the passive morpheme *-rare-* is adjacent to the aspectual verb *oe-* 'finish' and not to the embedded verb *yomi-* 'read'. Nevertheless, the passive morpheme appears to trigger the object-to-subject movement of the embedded object, which characterizes passivization under the syntactic approach to passive (cf. Chomsky 1981).

    It turns out, however, that *oe-* 'finish' is not the only Japanese aspectual verb that allows long passive. The same studies that discuss long passive with *oe-* 'finish' claim that two other Japanese aspectual verbs, *hajime-* 'begin' and *tsuzuke-* 'continue', also allow long passive (5a). That leaves *owar-* 'end' as the only aspectual verb that prohibits long passive (5b).[2]

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[2] There are two issues that concern the status of these passive data. First, there are disagreements in the literature concerning the interaction between the passive morpheme and Japanese aspectual verbs. While Shibatani (1978) maintains that *oe-* 'finish' only allows long passive, Kageyama (1993) states that some speakers allow both a passive complement and long passive with *oe-* 'finish'. Second, the reliability of long passive as a syntactic diagnostic has been a matter of debate. For instance, Reis and Sternefeld (2004) deem long passive in German too marginal to be a reliable diagnostic, whereas Bader et al. (2009) argue that long passive is grammatical in German based on experimental evidence. (I would like to thank an anonymous reviewer for directing my attention to this study.) For Japanese, Fukuda (2009) reports the results of formal sentence acceptability judgment experiments that examined interactions between the two passive constructions and the four Japanese aspectual verbs. The results strongly support the claim that *oe-*

(5) a. Kono hon-wa yomi -<u>hajime/tsuzuke</u> -**rare** -ta.
      this book-TOP read -begin/continue -**PASS** -PST
      'The book began/continued to be read.'

<div align="right">(modified from Nishigauchi 1993:94; (ex.42a))</div>

    b. *Sono hon-wa yooyaku kaki -<u>owar</u> -**are** -ta.
       that book finally write -end -**PASS** -PST
       ('That book finally was done being read.')

<div align="right">(Matsumoto 1996:176; (ex.10a))</div>

Table 1 summarizes the interactions between the four Japanese aspectual verbs and passivization.

Table 1: Interactions between the Four Japanese Aspectual Verbs and Passivization

	hajime- 'begin' and *tsuzuke-* 'continue'	*oe-* 'finish'	*owar-* 'end'
long passive	✓	✓	✗
passive complement	✓	✗	✓

   The different syntactic behavior exhibited by the four Japanese aspectual verbs with respect to passivization suggests that some Japanese aspectual verbs exhibit what is commonly known as *restructuring phenomena*, whereby sentences that appear to involve sentential complementation exhibit syntactic characteristics of mono-clausal sentences (Aissen and Perlmutter 1976, 1983; Strozer 1976; Rizzi 1978, 1982; Zagona 1982; Burzio 1986; Moore 1996; Roberts 1997; Cinque 1999, 2003, 2004; Wurmbrand 2001; Chung 2004; among many others). A common approach to restructuring verbs is to assume that they select for a reduced complement that does not constitute a clausal domain.[3] For instance, Kageyama (1993, 1999) argues that long passive is grammatical with *oe-* 'finish', *hajime-* 'begin', and *tsuzuke-* 'continue', because the verbal complements of these aspectual verbs may select a reduced complement without an embedded subject. In this structure, the embedded object can move to the matrix subject position without crossing over another argument (6).

(6) Kono hon$_i$-wa [[t$_i$ yomi] -<u>hajime/tsuzuke/oe</u>] -**rare** -ta.
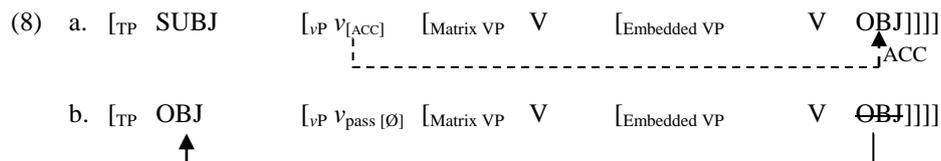   this book$_i$-TOP [[t$_i$ read] -begin/continue/finish] -**PASS** - PST

In contrast, if an aspectual verb obligatorily selects for a full complement with an embedded subject, as is argued to be the case with *owar-* 'end', then long passive is ungrammatical, presumably because movement of the embedded object to the matrix subject position incurs a minimality violation (Rizzi 1990) (7).

(7) Kono hon$_i$-wa [[**ec** t$_i$ yomi] -<u>owar</u>] -**rare** -ta.
     this book$_i$-TOP [[**ec** t$_i$ read] -end] -**PASS** - PST

'finish' is compatible only with long passive, while *hajime-* 'begin' and *tsuzuke-* 'continue' are compatible with both long passive and passive complements. However, the results of the same experiments failed to support the claim that *owar-* 'end' is compatible only with passive complements. The sentences with *owar-* 'end' in both passive constructions were rated poorly, and there was no significant difference in mean acceptability scores between them. In this study, however, I continue to assume that the previously reported judgments about interactions between *owar-* 'end' and the two passive constructions hold. See Fukuda (2009) for a discussion of possible causes of the low acceptability of *owar-* 'end' in the two passive constructions.

[3] An alternative approach to restructuring is to transformationally derive a restructuring (i.e. mono-clausal) structure from a bi-clausal structure (cf. Rizzi 1978, 1982; Roberts 1997). For instance, in Roberts (1997), a restructuring structure is derived from a bi-clausal structure when the embedded verb head-moves to the matrix domain and is co-indexed with the matrix tense. Since it is not clear whether Japanese has head movement (see Kishimoto 2007 for a recent argument against the assumption that lexical verbs in Japanese undergo head movement), I do not consider the head-movement approach to restructuring for the Japanese aspectual verbs.

Under standard assumptions within the Minimalist Program (Chomsky 1995), Kageyama's (1993) proposal can be interpreted as a VP complementation analysis (e.g. Wurmbrand 2001). Wurmbrand (2001) assumes that an external argument and accusative case are introduced in syntax not by lexical verbs, but rather by an independent verbal head v (Kratzer 1994, 1996; Chomsky 1995). She argues that restructuring verbs select for a VP complement that lacks a projection of v. When such a verb is in the active form, it is embedded under v in the matrix domain, and this matrix v case-licenses an embedded object in the VP complement, although there is no accusative case available in the VP complement (8a). However, when such a verb is passivized (i.e., when it is embedded under a v that lacks accusative case (v_{pass})), there is no accusative case in the entire sentence. This requires the embedded object to move to the matrix subject position, [Spec, TP], where it can be case-licensed by the nominative case residing there. This results in long passive (8b).

(8) a. [$_{TP}$ SUBJ   [$_{vP}$ $v_{[ACC]}$ [$_{Matrix\ VP}$ V   [$_{Embedded\ VP}$ V OBJ]]]]
                                                                                                    ⬆ACC

     b. [$_{TP}$ OBJ   [$_{vP}$ $v_{pass\ [Ø]}$ [$_{Matrix\ VP}$ V   [$_{Embedded\ VP}$ V ~~OBJ~~]]]]

Under this line of analysis, the different syntactic behaviors of the four Japanese aspectual verbs under passivization can be captured in the following way. First, *oe-* 'finish' obligatorily selects for a VP complement (i.e. it is an obligatory restructuring verb). Thus, it allows long passive but prohibits a passivized complement, assuming that a complement must be at least a vP to be passivized. Second, the aspectual verb *owar-* 'end' obligatorily selects for a vP complement (i.e. it is a non-restructuring verb). Thus, *owar-* 'end' never allows long passive. Third, the two other aspectual verbs, *hajime-* 'begin' and *tsuzuke-* 'continue', select for both VP and vP complements (i.e. they are optional restructuring verbs). Therefore, they allow both long passive and can take a passivized complement.

While this analysis nicely captures the syntactic patterns exhibited by these four Japanese aspectual verbs, it fails to explain why the four aspectual verbs select for different 'sizes' of verbal complements. In other words, the distinct selectional restrictions imposed by the four Japanese aspectual verbs would have to be taken as purely syntactic and idiosyncratic under this approach. In the following section, I present data that suggest that a purely syntactic analysis of the selections of different 'sizes' of verbal complements by the four Japanese aspectual verbs fails to capture interesting correlations between the passive data and the semantic restrictions that these Japanese aspectual verbs impose on their verbal complements.

2.2 The Semantic Differences: Selectional Restrictions of Event Types

Although semantic differences among the four Japanese aspectual verbs have received limited attention, a quick examination of these four Japanese aspectual verbs and their verbal complements reveals that (i) these four Japanese aspectual verbs all impose the same basic semantic requirement on their verbal complement, which is that they express durative events, and (ii) one of the four Japanese aspectual verbs, *oe-* 'finish', imposes more specific selectional restrictions on its verbal complement as it requires telic durative events (i.e. accomplishments).

First, all four Japanese aspectual verbs require their verbal complements to express events with duration. All four aspectual verbs are compatible with durative events such as 'reading a book' (9a) and 'eating sushi' (9b).[4] In contrast, none of them is compatible with events that lack duration (i.e. non-iterative instantaneous events) such as 'arriving at Tokyo' (10a) and 'discovering America' (10b).

(9) a. Taro-ga   hon-o   yomi   -hajime/tsuzuke/owar/oe   -ta.
         T- NOM   book-ACC   read   -begin/continue/end/finish -PST
         'Taro began/continued/was done/finished reading a book.'

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[4] Here, it should be pointed out that the complement events in the examples in (9) are ambiguous between atelic durative events (activities) and telic durative events (accomplishments), since bare nouns in Japanese can have a quantized interpretation, as in 'reading the book', which induces a telic interpretation, or non-quantized (bare plural-like) interpretation, as in 'reading books', which induces an atelic interpretation. What is crucial for the current discussion, however, is that the events expressed by the verbal complements in (9) are always interpreted as having duration.

b. Taro-ga   sushi-o   tabe   -hajime/tsuzuke/owar/oe   -ta.
T- NOM   sushi-ACC   eat   -begin/continue/end/finish   -PST
'Taro began/continued/was done/finished eating sushi.'

(10) a. #Taro-ga   Kyoto-ni   tsuki   -hajime/tsuzuke/oe/owar   -ta.
T- NOM   Kyoto-LOC   arrive   -begin/continue/finish/end   -PST
('Taro began/continued/finish/was done arriving at Kyoto.')

(modified from Shibatani 1973:76; fn.5 (i))

b. #Korombasu-ga   Amerika-o   hakkenshi   -hajime/tsuzuke/oe/owar   -ta.
Columbus-NOM   America-ACC   discover   -begin/continue/finish/end   -PST
('Columbus began/continued/finished/was done discovering America.')

Non-iterative achievement events express instantaneous changes of state that inherently lack duration. Therefore, the unacceptable status of (10a) and (10b) suggests that these Japanese aspectual verbs minimally require their verbal complements to express durative events.

However, there are ways in which normally instantaneous achievement events can be perceived as having duration. One such case is when they can be interpreted as iterative, for example, when they have plural subjects (Shibatani 1973; Teramura 1984).

(11) a. Kankookyaku-ga   suu-jikan-niwatatte   tsugitsugito   tsuk   -ta.
tourists-NOM   few-hour-for   one_after_another   arrive   -PST
'The tourists arrived one after another for hours.'

b. Ike-no   otamajakushi-ga   hutsukakan-niwatatte   tsugitsugito   kaeru-ni
pond-GEN   tadpole- NOM   two_days-for   one-after-another   frog-DAT
nar   -ta.
become   - PST
'One after another, the tadpoles in the pond became frogs for two days.'

In each of the examples in (11), the instantaneous event ('arriving at a location' and 'becoming a frog') is interpreted as being iterated over time with different subjects. The resulting event is a series of instantaneous events that has duration, although the individual events that compose such a series of events inherently lack duration. Now, if the semantic requirement imposed by the Japanese aspectual verbs on their verbal complements is that they express events with duration, as suggested by the infelicitous status of (10) above, one would expect that verbal complements that express iterative achievement events, such as (11a) and (11b), should be compatible with these aspectual verbs. The following examples in (12) show that this is indeed the case with three of the Japanese aspectual verbs, *hajime-* 'begin', *tsuzuke-* 'continue' and *owar-* 'end'.

(12) a. Kankookyaku-ga   Kyoto-ni   tsuki   -hajime -ta.
tourists- NOM   Kyoto-LOC   arrive   -begin   -PST
'Tourists began to arrive at Kyoto.'

(Shibatani 1973:76; fn.5 (ii))

b. Densha-ga   maiasa   teikoku-ni   tsuki   -tsuzuke   -ta.
train-NOM   every_morning   on_time-at   arrive   -continue   -PST
'The train continued to arrive on time every morning.'

c. Ike-no   otamajakushi-wa   sukkari   kaeru-ni   nari   -owar   -ta.
pond-GEN   tadpole- TOP   completely   frog-DAT   become   -end   -PST
'The tadpoles in the pond have all become frogs.'
(Lit. 'The tadpoles in the pond finished becoming frogs.')

(Matsumoto 1996:174; fn.1 (ii))

d. Amachua   tenmongakusha-ga   atarashii   wakusei-o   mitsuke   tsuzuke   -ta.
amateur   astronomer-NOM   new   planet-ACC   find   continue   -PST
'Amateur astronomers continued to discover a new planet.'

(12a), (12b), and (12c) are examples of iterative instantaneous events expressed by unaccusative verbs embedded under these three aspectual verbs. (12d) is an example of an iterative

instantaneous event expressed by the transitive verb *mitsuke-* 'find' that is embedded under *tsuzuke-* 'continue'. That these examples are acceptable provides further evidence that the only requirement imposed by these three Japanese aspectual verbs on their verbal complements is that they must express durative events. However, it turns out that *oe-* 'finish' is still incompatible with achievement events, even with an iterative interpretation.

(13) a. #Kankookyaku-ga   hoteru-ni   tsuki   -<u>oe</u>   -ta.
       tourists- NOM   Hotel-LOC   arrive   -finish -PST
       ('The tourists finished arriving at the hotel.')

     b. #Amachua   tenmongakusha-ga   atarashii   wakusei-o   mitsuke   -<u>oe</u>   -ta.
       amateur   astronomer-NOM   new   planet-ACC   find   -finish -PST
       ('Amateur astronomers finished discovering new planets.')

Oe- 'finish' is also different from the three other aspectual verbs, as it is the only one that is not compatible with a verbal complement that expresses an activity event, as shown in (14) below.

(14) a. Kodomo-ga   aruki   -<u>hajime/tsuzuke/owar</u>   -ta.
       child-NOM   walk   -begin/continue/end   -PST
       'The child began/continued/was done walking.'

     b. #Kodomo-ga   aruki   -<u>oe</u>   -ta.
       child-NOM   walk   -finish -PST
       ('The child finished walking.')

                                                                    (Nishigauchi 1993:87; (ex.23a))

In order for an activity event such as 'walking' in (14) to be a complement of *oe-* 'finish', it must have an element that provides a natural end point for the event, such as *sakamichi* 'hill' in (15).

(15)   Kodomo-ga   **sakamichi-o**   aruki   -<u>oe</u>   -ta.
       child-NOM   **hill-ACC**   walk   -finish -PST
       'The child finished walking (up) the hill.'

                                                         (Nishigauchi 1993:88; (ex.25))

Since the presence of such an element turns an activity into an accomplishment, Nishigauchi (1993) suggests that *oe-* 'finish' requires its verbal complement to express an accomplishment event (Nishigauchi 1993:88).

    These contrasts show that *oe-* 'finish' imposes selectional restrictions on its verbal complement that are more specific than the selectional restrictions imposed by the other three aspectual verbs. In particular, while the requirement that *hajime-* 'begin', *tsuzuke-* 'continue', and *owar-* 'end' impose on their verbal complements is simply that they must express durative events, *oe-* 'finish' requires its verbal complements to express a subset of durative events, namely telic durative events (accomplishments). This is why *oe-* 'finish' is incompatible with achievement events regardless of the availability of an iterative reading. Even though plural subjects make it possible for achievement events to be perceived as having duration as a series of events, a series of achievement events still does not constitute an accomplishment event. Furthermore, the accomplishment requirement seems to be what distinguishes the two completive aspect verbs, *oe-* 'finish' and *owar-* 'end'. While they both express completive aspect, only *oe-* 'finish' requires an accomplishment event, as seen in the contrast in (14).

    Table 2 summarizes the differences in selectional restrictions imposed by the four Japanese aspectual verbs on their verbal complements.

Table 2: Selectional Restrictions on Verbal Complements

	hajime- 'begin' and *tsuzuke-* 'continue'	*oe-* 'finish'	*owar-* 'end'
iterative achievement	✓	✗	✓
activity	✓	✗	✓
accomplishment	✓	✓	✓

2.3 Section Summary

This section presented two sets of data that show that the four Japanese aspectual verbs exhibit different syntactic and semantic patterns. The passive data suggested that *oe-* 'finish' always behaves as a restructuring verb, while *hajime-* 'begin' and *tsuzuke-* 'continue' exhibit restructuring behavior only occasionally, and *owar-* 'end' does not show restructuring behavior at all. The examination of the semantic restrictions imposed by these four Japanese aspectual verbs on their verbal complements showed that *oe-* 'finish' is the only aspectual verb that specifically requires its verbal complements to express telic durative events (i.e. accomplishments). The other three aspectual verbs only require their complements to express durative events. In what follows, I argue that taken together, the syntactic and semantic differences among the four Japanese aspectual verbs reviewed in this section motivate an analysis of these Japanese aspectual verbs as functional heads selecting for syntactic representations of events as their complements.
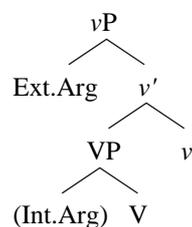
3 Proposal

In order to account for the syntactic and semantic differences among the four Japanese aspectual verbs, I argue that they are functional heads *Asp(ect)* (Travis 1991; Borer 1994, 1998) that select for syntactic representations of events as their complements. I further argue that aspect heads occur in two different positions as *L(ow)-Asp(ect)* and *H(igh)-Asp(ect)*, where they select for syntactic representations of different event types. Under my analysis, therefore, the four Japanese aspectual verbs exhibit different syntactic patterns because they are distributed differently between these two aspect head positions, and they have different distributions because they impose different selectional restrictions on their complements.

In order to present this analysis, I first outline my assumptions about syntactic realizations of the three event types based on the *v*P syntax framework (Hale and Keyser 1993, 2002; Kratzer 1994, 1996; Harley 1995; Chomsky 1995, 2000, 2001, 2008) (Sect. 3.1). I then introduce the proposed analysis of the four Japanese aspectual verbs as aspect heads *H-Asp* and *L-Asp* (Sect. 3.2), and argue for a particular distribution of these four Japanese aspectual verbs between the two aspect heads based on (i) their semantic selections of verbal complements and (ii) the passive data (Sect. 3.3).

3.1 Syntactic Representations of Event Types

In this section, I present my assumptions about the syntactic realizations of the three different event types (activities, achievements, and accomplishments) based on the *v*P syntax framework. According to this framework, there is a projection of a verbal head above the traditional VP that determines whether a given verbal projection involves an external argument and structural case. Under these assumptions, a projection of a verb that involves an external argument (i.e. a transitive or unergative verb) includes the verbal head that introduces an external argument and structural case, which is labeled as *v* in this paper (16a), while a projection of a verb that lacks an external argument (an unaccusative verb) includes the verbal head that lacks both external argument and structural case, which is labeld as v_{unacc} in this paper, as in (16b).

(16) a. transitive/unergative   b. unaccusative
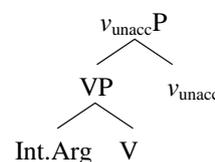
3.1.1 Activities as *v*Ps

An activity can be defined as a type of event that requires an event participant that initiates and maintains some activity (i.e. the kind of activity that the verb names). Since activities express events that are maintained for a while, they are durative. Activities are also atelic (i.e. without a predetermined end point). Therefore, verbs that express activities, such as *oyog-* 'swim' and *aruk-* 'walk', are compatible with a durative temporal adverbial phrase (henceforth *durative adverbial*) that expresses the duration of an event, such as *ni-jikan* 'for two hours', but they are incompatible with a time-span temporal adverbial phrase (henceforth *time-span adverbial*) that expresses a time interval, such as *ni-jikan-de* 'in two hours'. (These adverbials are indicated with italics.)

(17) a. Kodomo-tachi-ga   *ni-jikan/#ni-jikan-de*   oyog   -da.
       child-PL-NOM   *two-hour/#two-hour-in*   swim   -PST
       'The children swam for two hours/#in two hours.'

     b. Taro-wa *ni-jikan/#ni-jikan-de*   aruk   -ta.
       T-TOP   *two-hour/#two-hour-in*   walk   -PST
       'Taro walked for two hours/#in two hours.'

Following the literature on the Unaccusative Hypothesis (Perlmutter 1978; Burzio 1986; Levin and Rappaport 1995), I call verbs that express activities that require only one syntactic argument unergative verbs.

   Verbs that express activities can also involve two syntactic arguments; in other words, they can be transitive verbs, as in *hirune-o s-* 'take a nap' and *tanoshim-* 'enjoy'. Since they express activity events, *hirune-o s-* 'take a nap' and *tanoshim-* 'enjoy' are compatible with the durative adverbial *ni-jikan* 'for two hours' but incompatible with the time-span adverbial *ni-jikan-de* 'in two hours'.

(18) a. Taro-wa *ni-jikan/#ni-jikan-de*   hirune-o   s -ta.
       T-TOP   *two-hours/#two-hours-in*   nap-ACC   do -PST
       'Taro took a nap for two hours/#in hours.'

     b. Keiko-wa   *ni-jikan/#ni-jikan-de*   tsuri-o   tanoshim -da.
       K-TOP   *two-hours/#two-hours-in* fishing-ACC   enjoy   -PST
       'Keiko enjoyed fishing for two hours/#in hours.'

Following previous studies such as de Hoop (1992), Grimshaw (1993, 2005), Ramchand (1997), and van Hout (2000), I analyze the second argument in transitive activity verbs such as *hirune* 'nap' in *hirune-o s-* as an event modifier that serves to specify what kind of activity the verb expresses. This is particularly clear in example (18a). In an event of nap-taking, the only truly required participant is the person who takes a nap, and the second argument, *hirune* 'nap', only serves to specify what kind of event the verb expresses.

    Thus, activities can be expressed by either unergative intransitive verbs or transitive verbs. Under the *v*P syntax framework, this means that activities are always realized as *v*Ps. The required event participant, the one that initiates and maintains the activity, is always syntactically realized as an external argument. When a given activity verb lexically requires only one argument, it is realized as unergative verb (19a). When it lexically requires two arguments, it is realized as a transitive verb (19b), with the second argument syntactically licensed as an internal argument, and semantically functions as an event modifier.

(19) a. *activity*: unergative   b. *activity*: transitive

                   *v*P   *v*P
        Ext.Arg   *v′*   Ext.Arg   *v′*
           VP   *v*   VP   *v*
            V   Int.Arg   V
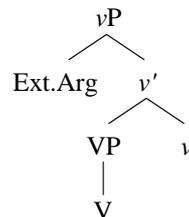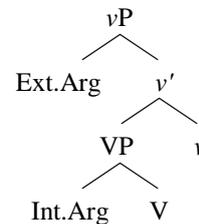
3.1.2 Achievements as either *v*_{unacc}Ps or *v*Ps

Achievements express events in which their participants undergo instantaneous changes. In other words, they are telic events without duration. The participant that undergoes the relevant change (henceforth UNDERGOER) can be either an internal argument or an external argument. When the UNDERGOER is an internal argument, the achievement verb is realized as an unaccusative intransitive verb such as *tsuk-* 'arrive' (20a). When the UNDERGOER is an external argument (e.g. EXPERIENCER), the verb is realized as a transitive verb such as *mitsuke-* 'find' (20b).

(20) a. Densha-ga eki-ni   tsuk -ta.
       train-NOM   station-LOC   arrive -PST
       'The train arrived at the station.'

b. Amachua tenmongakusha-ga atarashii wakusei-o mitsuke -ta.
Amateur astronomer –NOM new planet-ACC find -PST
'An amateur astronomer discovered a new planet.'

Because these verbs express telic events, they are incompatible with the durative adverbials *ju-ppun* 'for ten minutes' and *juu-nen* 'for ten years', but compatible with the time-span adverbials *ju-pun-de* 'in ten minutes' and *juu-nen-de* 'in ten years'.

(21) a. Densha-ga eki-ni *#ju-ppun/ju-pun-de* tsuk -ta.
train-NOM station-LOC *ten-minutes ten-minutes-in* arrive -PST
'The train arrived at the station #for ten minutes/in ten minutes.'

b. Sono tenmongakusha-wa *#juu-nenkan/ju-nenkan-de* wakusei-o mittsu mitsuke -ta.
that astronomer-NOM *ten-years/ten-years-in* planet-ACC three find -PST
'The astronomer discovered three planets #for ten years/in ten years.'

The instantaneous nature of the events expressed with these verbs can be seen in the interpretation of an aspectual construction, *teiru* (Kindaichi 1976; Jacobson 1982, 1992; McClure 1995; among others). The *teiru* construction expresses progressive meaning with verbs that express durative events such as the activity verb *oyog-* 'swim', while it expresses the resultative meaning with verbs that express instantaneous changes such as *tsuk-* 'arrive'.

(22) a. Kodomo-tachi-ga oyog -de i -ta.
child-PL-NOM swim -GER be -PST
'The children were swimming.'

b. Densha-ga eki-ni tsuk -te i -ta.
train-NOM station-LOC arrive -GER be -PST
'The train had arrived at the station.'

Therefore, achievement events can be expressed by unaccusative intransitive verbs as v_{unacc}Ps (23a), or they can be expressed by transitive verbs as vPs (23b).

(23) a. *achievement*: unaccusative   b. *achievement*: transitive

3.1.3 Accomplishments as v_{unacc}Ps or vPs

Accomplishments are durative events that are telic. Since they are telic, accomplishment predicates such as *ikken ie-o tate-* 'build a house' and *ni-mai tegami-o kak-* 'write two letters' are incompatible with durative adverbials such as *ni-kagetsu* 'for two months' and *sanju-ppun* ' for thirty minutes', but compatible with time-span adverbials such as *ni-jikan-de* 'in two hours' and *sanju-ppun-de* 'in thirty minutes'.

(24) a. Taro-wa *#ni-kagetsu/ni-kagetsu-de* i-kken ie-o tate -ta.
T-TOP *#two-month/two-month-in* one-CL house-ACC build -PST
'Taro built a house #for two months/in two months.'

b. Taro-wa *#sanju-ppun/sanju-ppun-de* ni-mai tegami-o kak -ta.
T-TOP *#thirty-minutes/in thirty-minutes* two-CL letter-ACC write -PST
'Taro wrote two letters #for thirty minutes/in thirty minutes.'

Unlike achievements, which are also telic but non-durative, accomplishments express events that necessarily involve duration. Thus, the aspectual *teiru* construction can have a progressive interpretation with an accomplishment predicate such as *ikken ieo- tate-* ' build a house' (25), unlike with an achievement predicate, with which it can only have a resultative meaning (see (22b) above).

(25) Taro-wa   i-kken   ie-o   tate   -te   i   -ta.
      T-TOP   one-CL   house-ACC   build -GER   be   -PST
      'Taro was building a house.'

Another characteristic that distinguishes accomplishments from other event types is that accomplishments are the only type of event that can be derived from another type of event. As discussed in Section 2.2, an accomplishment event can be derived from an activity if an element that delimits the activity is provided. While an event of walking is incompatible with the time-span adverbial *sanju-ppun-de* 'in thirty minutes' in (26a) because it is an activity, an event of walking in a park is compatible with the same adverbial in (26b). This suggests that the presence of a PATH argument such as *kooen* 'park' turns an activity into an accomplishment.

(26) a. #Kanja-ga   *sanju-ppun-de*   aruk   -ta.
        patient-NOM   thirty-minutes-in   walk   -PST
        ('The patients walked in thirty minutes.')

     b. Kanja-ga   **kooen-o**   *sanju-ppun-de*   aruk   -ta.
        patient-NOM   **park-ACC**   thirty-minutes-in   walk   -PST
        'The patients walked the park in thirty minutes.'

Here, it is important to note that no change occurs to the external argument of the verb *kanja* 'patient', whether the event of walking is interpreted as an activity or an accomplishment. In both of these readings, *kanja* 'patient' is interpreted as the participant that initiates and maintains the activity of walking. This is arguably because only VP-internal elements (e.g. internal arguments and VP-internal adjuncts) can function as 'delimiters' that change atelic activity events into telic accomplishments, and external arguments are "external to that part of syntax where measuring and delimiting of the event described by the verb takes place" (Tenny 1994:84).

Support for these claims can be provided through showing that manipulation of external arguments has no effect on the activity-accomplishment distinction, while manipulation of internal arguments does have such an effect (Verkuyl 1972, 1993, 1999; Tenny 1994; Borer 2005; McDonald 2008; among others). While the transitive verb *yom-* 'read' with a bare noun *hon* 'book' as the internal argument expresses an activity in (27a), adding a classifier phrase *ni-satsu* 'two books' quantizes the NP and changes the event into an accomplishment, as indicated by the incompatibility of (27b) with a durative adverbial.

(27) a. Gakusei-ga   hon-o   *nan-jikan-mo*   yom   -da.
        student-NOM   book-ACC   what-hour-even   read -PST
        'The students read books for hours.'

     b. #Gakusei-ga   **ni-satsu**   hon-o   *nan-jikan-mo*   yom   -da.
        student-NOM   **two-CL**   book-ACC   what-hour-even   read   -PST
        ('The students read two books for hours.')

In contrast, similar manipulation of an external argument fails to create similar effects.

(28) a. Gakusei-ga   hon-o   *nan-jikan-mo*   yom   -da.
        student-NOM   book-ACC   what-hour-even   read -PST
        'The students read books for hours.'

     b. **Hitori**   gakusei-ga   hon-o   *nan-jikan-mo*   yom   -da.
        one-CL   student-NOM   book-ACC   what-hour-even   read   -PST
        'One student read books for hours.'

(28a) has the bare noun subject *gakusei* 'students', and (28b) has the same noun with the classifier phrase *hitori* 'one person'. That the durative temporal adverbial phrase is still felicitous in (28b)

shows that quantizing the external argument has no effect on the interpretation of the event expressed by (28).

Evidence also suggests that a phrase can be a delimiter in Japanese only if it is marked with accusative case, supporting Tenny's claim that only VP-internal elements can function as 'delimiters'. First, an adverbial phrase marked with *made* 'until', as in *mise made* 'to the store' in (29) below, serves as a delimiter in (29a) (where it is marked with −*o*) as indicated by its incompatibility with a durative adverbial. However, if it is not marked with accusative case, as in (29b), the same sentence is compatible with the durative adverbial. This suggests that a *made* phrase functions as a delimiter only if it is marked with accusative case.

(29) a. Taro-ga   **mise-made-o**   (#*ni-jikan*)   hashir   -ta.
     T-NOM   store-till-ACC   (two-hours)   run   -PST
     'Taro ran to the store (for two hours).'

    b. Taro-ga   **mise-made**   *ni-jikan*   hashir   -ta.
     T-NOM   store-till   two-hours   run   -PST
     'Taro ran to the store for two hours.'

Similarly, an NP that expresses distance, such as *jyu-kiro* 'ten kilometers', creates different interpretations of events depending on whether it is marked with accusative case or not. In (30a) below, the distance phrase *jyu-kiro* 'ten kilometers' is not marked with accusative case. The natural interpretation of (30a) is that ten kilometers is not the intended end point of the event (i.e., it is not a delimiter). In (30b), the same distance phrase is marked with accusative case, and the natural interpretation of (30b) is that ten kilometers *is* the intended end point of the event (i.e., it is a delimiter). In other words, Taro is likely to keep on running after ten kilometers when (30a) is uttered, but not when (30b) is uttered.

(30) a. Taro-ga   *ni-jikan-de*   **jyu-kiro**   hashir   -ta.
     T-NOM   two-hours-in   10-kilometeres   run   -PST
     'Taro ran ten kilometers in two hours.'
     (Running ten kilometers is not the intended goal.)

    b. Taro-ga   *ni-jikan-de*   **jyu-kiro-o**   hashir   -ta.
     T-NOM   two-hours-in   10-kilometers-ACC   run   -PST
     'Taro ran ten kilometers in two hours.'
     (Running ten kilometers is the intended goal.)

Thus, the running event is interpreted as an accomplishment only in (30b), in which the distance phrase is marked with accusative case. What these contrasts show is that a phrase can be a delimiter and turn an activity into an accomplishment only if it is marked with accusative case. Under the assumption that only VP-internal elements can bear accusative case, these observations strongly support the claim that only VP-internal arguments can be delimiters.

Like the other event types, accomplishment events can also be realized as intransitive verbs, as exemplified by *toke-* 'melt' (31a) and *same-* 'cool' (31b).

(31) a. Koori-ga   #*ni-jikan*/*ni-jikan-de*   toke   -ta.
     ice-NOM   #*two-hour*/two-hour-in   melt   -PST
     'The ice melted #for two hours/in two hours.'

    b. Suupu-ga   #*ni-jikan*/*ni-jikan-de*   same   -ta.
     soup-NOM   #*two-hour*/two-hour-in   cool   -PST
     'The soup called #for two hours/in two hours.'

Since these intransitive verbs express accomplishment events, they are incompatible with durative adverbials but compatible with time-span adverbials. Moreover, the *teiru* construction can have a progressive meaning with these intransitive verbs, which suggests that they express durative events, unlike intransitive verbs that express achievement events such as *tsuk-* 'arrive'.[5]
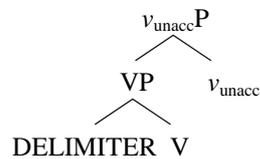
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[5] The English counterparts of *melt* and *cool* are commonly known as degree achievements and are characterized as being compatible with both telic and atelic interpretations (Dowty 1979; Hay 1998; Hay et al. 1999). Thus, it may seem surprising that their Japanese counterparts *toke-* 'melt'

(32) a. Koori-ga dandan toke -te i -ta.
      ice-NOM   gradually   melt -GER be -PST
      'The ice was gradually melting.'

    b. Suupu-ga dandan same -te i -ta.
      soup-NOM   gradually   cool -GER be -PST
   'The soup was cooling down gradually.'

The only argument of these unaccusative accomplishment verbs is the delimiter of the event that they express. Under the assumption that the subject of unaccusative verbs is underlyingly the internal argument (Perlmutter 1978; Burzio 1986), these verbs are consistent with the generalization that only VP-internal elements can be delimiters.

    Based on the aforementioned observations, I conclude that accomplishment events are syntactically realized as v_{unacc}Ps with unaccusative intransitive verbs (33a) or vPs with transitive verbs (33b), with an obligatory delimiter inside VP.

(33) a. *accomplishment*: unaccusative   b. *accomplishment*: transitive
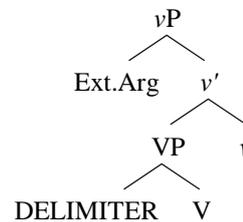
3.1.4 Section Summary

In this section I proposed syntactic analyses for the three different event types: activities, achievements and accomplishments. Activities are atelic durative events that have one obligatory event participant that initiates and maintains the relevant activity. They can be syntactically realized as vPs, either with or without an internal argument (i.e., as transitives or unergatives). Achievements are telic non-durative events that also have one obligatory participant that undergoes a change of state. They can be syntactically realized as v_{unacc}Ps when the argument that undergoes a change of state is an internal argument (unaccusatives), or vPs when the argument that undergoes a change of state is an external argument (transitives). Accomplishments are telic durative events that require an element that specifies an end point for the activity (delimiter). Accomplishments are syntactically realized as either vPs (transitives), or v_{unacc}Ps (unaccusatives) with a special requirement that the embedded VP has a delimiter. In what follows, I argue that these syntactic representations of the different event types are selected by the four Japanese aspectual verbs as functional heads that encode aspectual distinctions of events.

3.2 Aspectual Verbs as Aspect Heads

Since the early 1990s, a number of studies have advanced the hypothesis that thematic and aspectual requirements of events are directly encoded in the syntax (Travis 1991, 2000; Borer 1994, 1998, 2005; McClure 1995; Ramchand 1997, 2008; Diesing 1998; Ritter and Rosen 1998,; van Hout 2000; Svenonius 2002; McIntyre 2004; Thompson 2005; MacDonald 2006, 2008; among others).

    The original hypothesis put forth in earlier studies such as Travis (1991) and Borer (1994, 1998) is that there are functional projections within the underlying representation of simple sentences that encode aspectual distinctions among different events. Travis (1991) advances this hypothesis based on morphological evidence from Tagalog. In Tagalog, perfective aspect is marked with the prefix *n-* at the beginning of a verbal complex (34a), while imperfective aspect is marked with the same prefix at the beginning *and* by reduplication of the first syllable of the verb

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and *same-* 'cool' can only be telic. However, it has been argued that what can be classified as degree achievements in different languages exhibit different aspectual properties, and aspectual properties of degree achievements are not necessarily derivable from their meaning (Csirmaz 2009; den Dikken et al. 2010).

root, which in this particular case is *tumba* 'fall' (34b). (The relevant morphemes are indicated with italics.)

(34) a. *n-*   *m-*   *pag-*   *tumba*.
       ASP1   TOP   CAUSE   fall
       'X has knocked Y down.'

     b. *n-*   *m-*   *pag-*   *tu-*   *tumba*.
        ASP1   TOP   CAUSE   ASP2   fall
        'X was knocking Y down.'

Assuming that the order of morphemes mirrors the phrase structure (e.g. Baker 1985), Travis argues that the two aspect markers (*n-* and *tu-*) are functional heads that encode aspectual specification in two places in a single verbal complex in Tagalog. Travis calls the first and higher functional head *outer aspect*, which indicates whether an event has started or not, and the second and lower head *inner aspect*, which indicates whether an event is completed or not:

(35)

Borer (1994, 1998) independently proposes a similar hypothesis in order to account for intransitive verbs that behave as both unaccusative and unergative verbs ("variable behavior verbs"). Without going into detail, Borer's analysis accounts for variable behavior verbs by postulating a projection of aspect above VP that assigns an event measurement (EM) role to an argument in its specifier position. When a verb has an EM argument, it expresses a telic event. Borer argues that intransitive verbs are interpreted as unaccusative verbs when their sole argument is, at one point during its derivation, the specifier of the aspect head, receiving an EM role (36a). Intransitive verbs are interpreted as unergative verbs when the specifier position of the aspect head is not projected, and their argument does not become an EM argument (36b). Under Borer's analysis, therefore, variable behavior verbs are intransitive verbs whose lexical entries are associated with these two different underlying syntactic structures.

(36) a.

(Borer 1994: 29, (23) and (25))

(Borer 1994: 29; (exx. 23, 25))

The current proposal builds on the hypothesis that these two studies originally advanced, namely: that there are functional heads within the underlying structure of simple sentences that encode aspectual information about events. However, our proposal departs from these studies in arguing that these two aspect heads select for syntactic representations of different types of events.[6] According to the proposed analysis, there are two types of aspect heads. H-Asp selects for any event type as long as it is durative. An event embedded under H-Asp can be a v_{unacc}P if it is an iterated unaccusative achievement or unaccusative accomplishment, or a vP, which can be an activity, an iterated transitive achievement, or an accomplishment.

(37)   H-AspP
                              ╱‾‾‾‾‾╲
                    $v_{(unacc)}$P   H-Asp
                        ╱‾‾╲
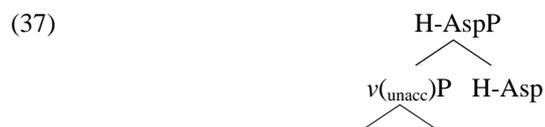
L-Asp, on the other hand, specifically selects for an accomplishment. As discussed in 3.1, accomplishments can be distinguished from activities only by examining the content of VP, because only VP-internal elements can delimit activities and turn them into accomplishments. Thus, L-Asp must access a VP inside an accomplishment v_{unacc}P by immediately dominating it. In other words, it must appear in between v_{unacc}/v and VP within an accomplishment v_{unacc}P/vP, as in (38) below.

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[6] More recent studies such as McIntyre (2004) and Ramchand (2008) propose underlying structures of simple sentences that are more finely grained and articulated than the ones proposed in earlier studies such as Travis (1991) and Borer (1994, 1998). Ramchand (2008), for instance, proposes that different event types are compositionally derived in the underling structure of simple sentences consisting of projections of at most three distinct functional heads: (i) *init*(iation), (ii) *proc*(ess), and (iii) *res*(ult) (*the first phase syntax* in her terms).
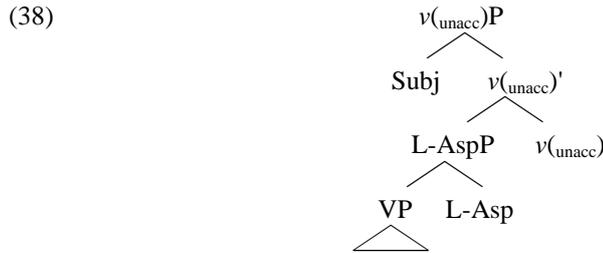
The reason that the older proposals (especially Travis 1991) were adopted here instead of Ramchand's proposal is that Ramchand (2008) explicitly denies the hypothesis that the passive involves a type of *v* (the equivalent of *init* in her proposal), and she assumes that passivization occurs outside of the domain of the first phase syntax (Ramchand 2008:89). However, under the proposed analysis, it is crucial that passivization occur within the syntactic domain where syntactic realizations of events take place, as argued in 3.3. In fact, evidence suggests that voice distinction is closely associated with the composition of events. Van Valin and LaPolla (1997) show that in Italian, passivizability of transitive verbs may depend on whether they express activities or accomplishments. For instance, when a transitive verb *mangiare* 'eat' expresses an accomplishment, it can be passivized, but it cannot be passivized when it expresses an activity, regardless of whether the subject is pre- or post-verbal (van Valin and LaPolla 1997:149). This contrast seems to suggest that transitive verbs that are compatible with both activity and accomplishment readings, such as *mangiare* 'eat', can be passivized only when they express accomplishments in some languages.

A similar contrast is also observed in Japanese. When transitive verbs such as *kak-* 'write' are active, they are compatible with both a durative adverbial and a time-span adverbial (ia). Once they are passivized, however, they become compatible only with a time-span adverbial, which suggests that they express accomplishments only when passivized (ib).

(i) a. Sono   sakka-ga   shinsaku-o   ni-jikan/ni-jikan-de   kak -ta.
       that   writer-NOM new_book-ACC   2-hour/2-hour-in   write -PST
       'The writer wrote his new book for two hours/in two hours.'

    b. Shinsaku-ga   sono   sakka-niyotte   #ni-jikan/ni-jikan-de   kak -are -ta.
       new_book-NOM   that   writer-BY   #2-hour/2-hour-in   write -PASS -PST
       'The new book was written by the writer #for two hours/in two hours.'

These observations show that voice is closely associated with event composition. As such, I assume that the passive *v* should be in the syntactic domain of event composition, as in the proposed analysis, and contra Ramchand (2008).

(38)

```
                    v(unacc)P
                   /        \
               Subj      v(unacc)'
                          /      \
                    L-AspP    v(unacc)
                    /    \
                  VP    L-Asp
```

One way in which the selection of 'an accomplishment VP' by L-Asp can be implemented is to assume that L-Asp is in a local syntactic configuration (such as a Spec-Head relationship) with the delimiter in the VP (see Borer 1994; Ritter and Rosen 1998; Travis 2000; Thompson 2005; MacDonald 2008 for similar ideas). I assume that L-Asp and the delimiter must be in a Spec-Head relationship, with the delimiter moving to [Spec, L-AspP]. Thus, with a transitive accomplishment verb, the delimiter first moves to [Spec, L-AspP], and then it is case-licensed by v (39). These assumptions account for the observation that the delimiter under vP is always accusative-marked.[7]

(39)

```
                          vP
                        /    \
                   Ext.Arg    v'
                             /    \
                        L-AspP    v [acc]
                        /      \
                 DELIMITER   L-Asp'
                             /     \
                           VP     L-Asp
                          /   \
                   DELIMITER   V
```
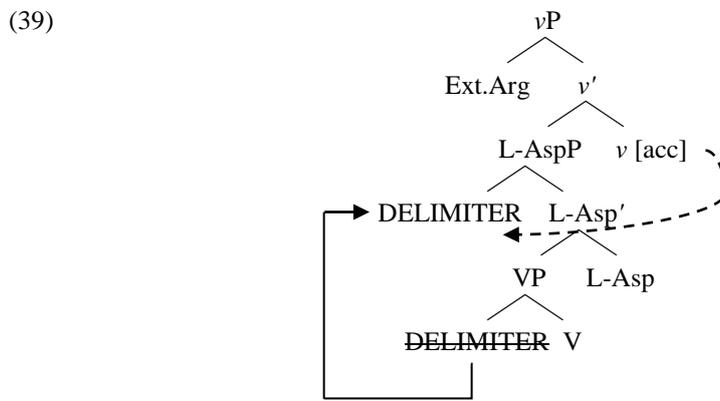
3.3. The Distribution of the Four Japanese Aspectual Verbs between H-Asp and L-Asp

In this section, I argue that the syntactic and semantic patterns exhibited by the four Japanese aspectual verbs discussed in Section 2 together motivate an analysis in which *hajime-* 'begin' and *tsuzuke-* 'continue' can be either H- or L-Asp, while *oe-* 'finish' and *owar-* 'end' can only be L-Asp and H-Asp, respectively.

3.3.1 *Oe-* 'finish' as only L-Asp

In terms of semantic restrictions, *oe-* 'finish' differs from the other three aspectual verbs in that it is the only one that is incompatible with iterative achievements (40a/b) and activities (40c). The only event type with which *oe-* 'finish' is compatible is the accomplishment type (41).

(40) a. #Kankokyaku-ga   hoteru-ni tsuki   -<u>oe</u>   -ta.
        tourists- NOM   hotel-LOC arrive   -finish   -PST
        ('The tourists finished arriving at the hotel')

   b. #Amachua   tenmongakusha-ga   atarashii   wakusei-o   mitsuke -oe   -ta.
        amateur   astronomer-NOM   new   planet-ACC   find   -finish   -PST
        ('Amateur astronomers finished discovering new planets.')

   c. #Kodomo-ga   aruki   -<u>oe</u>   -ta.
        child-NOM   walk   -finish   -PST
        ('The child finished walking.')

(41) Kodomo-ga   sakamichi-o   aruki   -<u>oe</u>   -ta.
        child-NOM   hill-ACC   walk   -finish   -PST
        'The child finished walking (up) the hill.'

---

[7] I remain agnostic about the exact nature of the case licensing system in Japanese. See Inoue (2005) for a comprehensive review of studies of case licensing in Japanese.
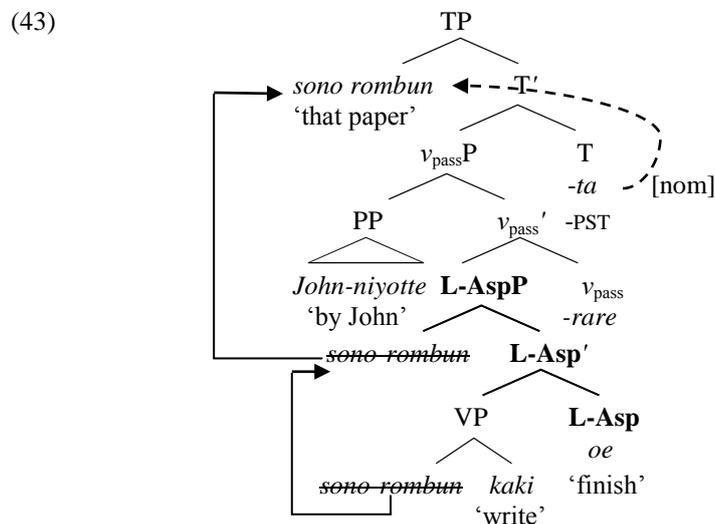
Under the proposed analysis, *oe-* 'finish' is an L-Asp head that selects for an accomplishment event and marks its completion. If *oe-* 'finish' can only be L-Asp, then it follows that it is incompatible with iterative achievements such as (40a) and (40b) as its complement, since these events do not have the delimiter that is required by L-Asp. Activities such as (40c) are incompatible with *oe-* 'finish' for the same reason.

The analysis of *oe-* 'finish' as L-Asp also accounts for its syntactic behavior; that is, it accounts for why it is only compatible with long passive.

(42) a. Sono rombun-ga (John-niyotte) yomi -<u>oe</u> **-rare** -ta.
      that paper-NOM (J-BY) read -finish **-PASS** - PST
      'The paper begun/continued/finished being read by John.'

   b. *Natsuko-to Tsuyoshi-no kutsu-ga migak **-are** -<u>oe</u> -ta.
      N-and T-GEN shoes-NOM polish -PASS -finish -PST
      ('Natsuko and Tsuyoshi's shoes finished being polished.')

I assume that passive sentences have a v that lacks accusative case. Unlike the v that co-occurs with unaccusative verbs (v_{unacc}), I assume that the v in passive sentences introduces an external argument, since the presence of an external argument is entailed by passive sentences (Williams 1985; Roeper 1987; Roberts 1987; Baker et al. 1989; Pylkkänen 2002; among others). In order to differentiate the v in sentences with unaccusative verbs (v_{unacc}) and the v in passive sentences, I label the v in passive sentences as v_{pass}, and I assume that the passive morpheme -(r)are- in Japanese is an overt instance of v_{pass}.

Given these assumptions, the proposed analysis correctly predicts that the passive morpheme can only appear above L-Asp, since L-Asp is embedded under v. This accounts for the observation that *oe-* 'finish' is compatible with long passive (42a), but incompatible with a passive complement (42b). The underlying structure of the long passive sentence with *oe-* 'finish' (42a) looks like (43) below, in which the internal argument first moves to [Spec, L-AspP] where it is in a Spec-Head relationship with L-Asp, and then moves to [Spec, TP] to get licensed with nominative case.

(43)

```
                              TP
                             /  \
        sono rombun  ◄---- T'
        'that paper'      /  \
                    v_pass P    T
                      /  \     -ta   [nom]
                    PP   v_pass'  -PST
                   /  \    /  \
        John-niyotte  L-AspP   v_pass
        'by John'    /  \      -rare
            sono rombun   L-Asp'
                         /  \
                       VP    L-Asp
                      /  \    oe
        sono rombun  kaki  'finish'
                     'write'
```
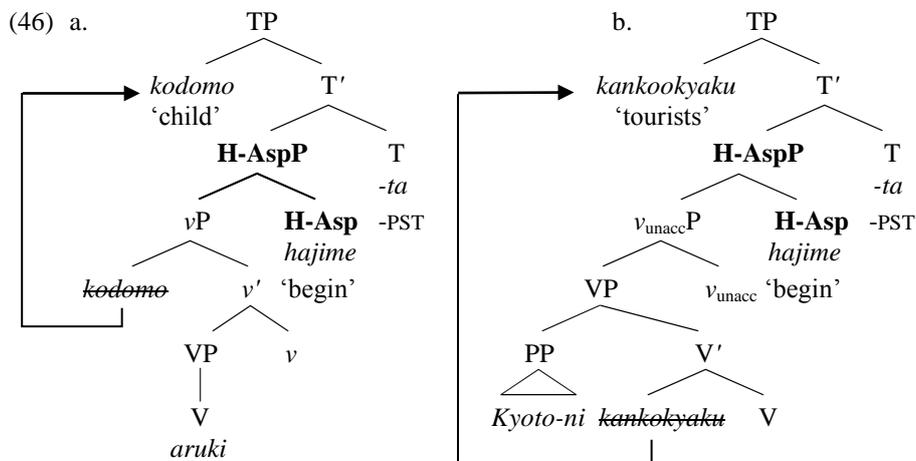
3.3.2 *Hajime-* 'begin' and *tsuzuke-* 'continue' as either H- or L-Asp

Unlike *oe-* 'finish', *hajime-* 'begin' and *tsuzuke-* 'continue' are compatible with atelic durative events such as activities (44) and iterated achievements (45).

(44) Kodomo-ga aruki -<u>hajime/tsuzuke</u> -ta.
      child-NOM walk -begin/continue -PST
      'The child began/continued walking.'

(45) a. Kankookyaku-ga   Kyoto-ni   tsuki   -hajime   -ta.
       tourists- NOM   Kyoto-LOC   arrive -begin   -PST
       'Tourists began to arrive at Kyoto.'

    b. Densha-ga   maiasa   teikoku-ni -tsuki   -tsuzuke   -ta.
       train-NOM   every_morning   on_time-at -arrive -continue   -PST
   'The train continued to arrive on time every morning.'

Under my analysis, this means that these aspectual verbs are H-Asp in these examples. Unlike L-Asp, which requires accomplishment events, H-Asp provides aspectual specification to any event as long as it is durative. H-Asp can have a vP as its complement, as is the case with activities such as (44). Thus, the underlying structure for (44) with *hajime-* 'begin' looks like (46a), in which *hajime-* 'begin' is H-Asp and takes the activity vP as its complement. H-Asp can also have a v_{unacc}P as its complement, with a VP headed by an unaccusative verb that expresses an achievement event that can be interpreted as iterative (e.g., because it has a plural subject), as in the examples in (45). (45a) has an underlying structure that looks like (46b).

(46) a.

b.

The analysis of *hajime-* 'begin' and *tsuzuke-* 'continue' as H-Asp is supported by the passive data discussed in section 2.1. Unlike *oe-* 'finish', which is L-Asp and is incompatible with a passive complement, these two aspectual verbs are compatible with a passive complement.

(47) Mise-no   garasu-wa   booto-ni   war   **-are**   -hajime/tsuzuke   -ta.
      Store-GEN   glass-TOP   rioter-BY   break   **-PASS**   -begin/continue   -PST
   'The store windows began/continued to be broken by the rioters.'

Under the assumption that the passive morpheme is a type of v (v_{pass}), my analysis correctly predicts that the passive morpheme *-(r)are-* should be able to appear below these two aspectual verbs when they are H-Asp, instantiating a passive complement. Under the proposed analysis, therefore, (47) has the underlying structure in (48).

(48)
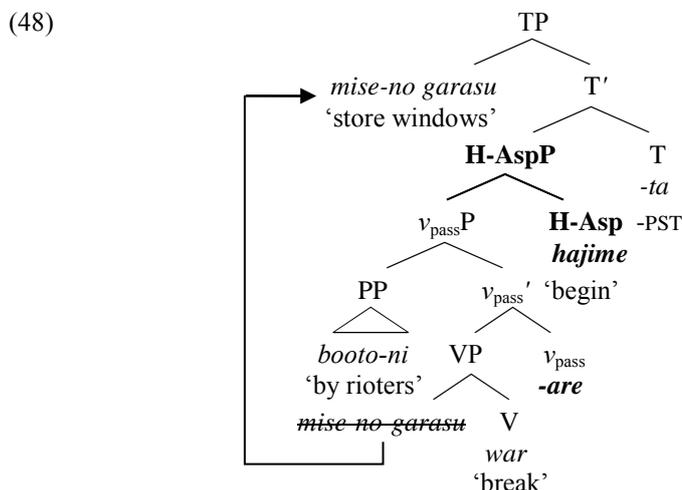
However, *hajime-* 'begin' and *tsuzuke-* 'continue' are compatible with long passive as well, in which these two aspectual verbs appear below the passive morpheme (i.e., they are followed by it).

(49) Kono   hon-wa   yomi   -<u>hajime/tsuzuke</u> -**rare**   -ta.
     this   book-TOP   read   -begin/continue -**PASS** - PST
     'The book began/continued to be read.'

Under the proposed analysis, the fact that *hajime-* 'begin' and *tsuzuke-* 'continue' allow for long passive must mean that they can also be L-Asp. Thus, (49) with *tsuzuke-* 'continue' has the underlying structure in (50) wherein *tsuzuke-* 'continue' is L-Asp.

(50)
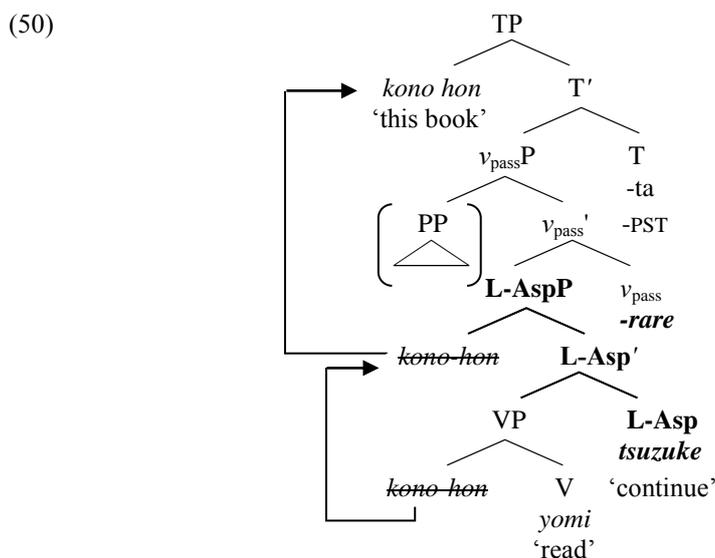
I thus conclude that *hajime-* 'begin' and *tsuzuke-* 'continue' can be either H- or L-Asp, marking inception and continuation of all durative events, whether they are activities, iterative achievements or accomplishments. This is unlike *oe-* 'finish', which can only occur as L-Asp because it specifically marks the completion of accomplishment events.

3.3.3 *Owar-* 'end' as H-Asp only

Like *hajime-* 'begin' and *tsuzuke-* 'continue', *owar-* 'end' is compatible with activities (51a) and iterated achievements (51b).

(51) a. Kodomo-ga   aruki   -<u>owar</u>   -ta.
       child-NOM   walk   -end   -PST
       'The child was done walking.'

     b. Ike-no   otamajakushi-wa   sukkari   kaeru-ni nari   -<u>owar</u> -ta.
       pond-GEN   tadpole- TOP   completely frog-DAT become -end   -PST
     'The tadpoles in the pond have all become frogs.'
     (Lit. 'The tadpoles in the pond finished becoming frogs.')

Under my analysis, this means that *owar-* 'end' can be H-Asp. This analysis is consistent with the observation that *owar-* 'end' is compatible with a passive complement.

(52) Sono machi-ga   koogekis -**are**   -<u>owar</u> -ta.
     that city-NOM   attack   -**PASS** -end   -PST
     'That city was done being attacked.'

As discussed earlier, *owar-* 'end' is incompatible with long passive.

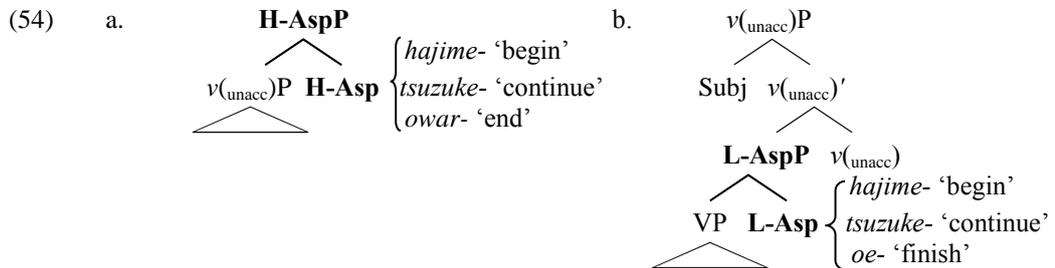(53) *Sono hon-wa   yooyaku   kaki   -<u>owar</u> -**are**   -ta.
     that book- TOP   finally   write   -end   -**PASS** -PST
     ('That book finally was done being written.')

Thus, we must conclude that *owar-* 'end' cannot be L-Asp, and that it can only be H-Asp.

This finding leads to the conclusion that the Japanese aspectual verb system uses two different aspect markers to mark the completion of atelic durative events (activities and iterative achievements) and telic durative events (accomplishments): *owar-* 'end' is used for the former and *oe-* 'finish' is used for the latter. However, the Japanese aspectual verb system uses the same aspect markers (*hajime-* 'begin' and *tsuzuke-* 'continue') to mark the inception and continuation of all durative events.

3.3.4 Section Summary

In this section, I have argued that taken together, the semantic restrictions imposed by the four Japanese aspectual verbs on their complements and the compatibility of the four Japanese aspectual verbs with two types of passive constructions (long passive and passive complements) lead us to an analysis in which these aspectual verbs are heads of functional projections that encode the aspectual specification of events, H-Asp and L-Asp, with the following distribution of the individual aspectual verbs between the two aspect heads.

(54) a.

$$
\text{H-AspP}
$$

$v_{(\text{unacc})}$P H-Asp $\begin{cases} \textit{hajime-} \text{ 'begin'} \\ \textit{tsuzuke-} \text{ 'continue'} \\ \textit{owar-} \text{ 'end'} \end{cases}$

b.

$$
v_{(\text{unacc})}\text{P}
$$

Subj $v_{(\text{unacc})}$'

L-AspP $v_{(\text{unacc})}$

VP L-Asp $\begin{cases} \textit{hajime-} \text{ 'begin'} \\ \textit{tsuzuke-} \text{ 'continue'} \\ \textit{oe-} \text{ 'finish'} \end{cases}$

In what follows, I present supporting arguments for the proposed analysis.

4 Supporting Arguments

This section presents three supporting arguments for the proposed analysis of the four Japanese aspectual verbs by providing (i) more passive data, (ii) data from subject honorification, and (iii) data from interactions between *hajime-* 'begin' and *tsuzuke-* 'continue' and a focus marker *-dake* 'only'.

4.1 More Passive Data

According to my analysis, two of the Japanese aspectual verbs, *hajime-* 'begin' and *tsuzuke-* 'continue', occur as both H-Asp and L-Asp. Given that H-Asp selects for any durative event while L-Asp specifically selects for accomplishments, this analysis of *hajime-* 'begin' and *tsuzuke-* 'continue' makes specific predictions about correlations between the acceptability of the two passives (a passive complement and long passive) with verbal complements that express particular event types. In particular, it predicts that long passive should be acceptable with *hajime-* 'begin' and *tsuzuke-* 'continue' only when their verbal complements can be interpreted as accomplishments. In other words, if the verbal complements of *hajime-* 'begin' and *tsuzuke-* 'continue' express activities and achievements, then long passive with *hajime-* 'begin' and *tsuzuke-* 'continue' should be unacceptable.

Let us first examine this prediction with verbal complements that can only be interpreted as activities, such as ones that are headed by transitive verbs *oikake-* 'chase' and *hinans-* 'criticize'. These verbs can only express activity events, as evidenced by their incompatibility with the time-span adverbials in italics in (55a/b).

(55) a. #Shitsukoi kisha-ga   Taro-o   *ni-jikan-de* oikake -ta.
         persistent reporter-NOM T-ACC   wo-hour-in   chase   -PST
         ('The persistent reporter chased Taro in two hours.')

     b. #Kokumin-ga   seihu-o   *kono   suukagetsu-de* hinanshi -ta.
         citizens-NOM government-ACC   this   few_months-in   criticize -PST
         ('The citizens criticized the government in past few months.')

Since these transitive verbs can only express activities, my prediction is that when these transitive verbs are embedded under *hajime-* 'begin' and *tsuzuke-* 'continue', only a passive complement should be grammatical. The following examples show that this is indeed the case.

(56) a. Taro-ga   shitsukoi   kisha-ni   oikake **-rare** -tsuzuke   -ta.
        T-NOM   persistent   reporter-BY   chase   -PASS -continue   -PST
        'Taro continued to be chased by the persistent reporter.'

      b. #Taro-ga   shitsukoi   kisha-ni   oikake -tsuzuke   **-rare**   -ta.
         T-NOM   persistent   reporter-BY   chase   -continue   -PASS   -PST
        ('Taro continued to be chased by the persistent reporter.')

(57) a. Seihu-ga   kokumin-ni   hinans   **-rare** -hajime -ta.
        government-NOM   citizens-BY   criticize   -PASS   -begin -PST
        'The government began to be criticized by the citizens.'

      b. #Seihu-ga   kokumin-ni   hinanshi -hajime **-rare**   -ta.
         government-NOM   citizens-BY   criticize   -begin   -PASS   -PST
        ('The government began to be criticized by the citizens.')

    Now let us examine verbal complements that only express achievements, which is the other event type that is incompatible with long passive. The verbs *mitsuke-* 'find' (58a) and *ansatsus-* 'assassinate' (58b) are such verbs. They express achievement events, as shown by their incompatibility with the durative adverbials in italics in (58a/b).

(58) a. #Amachua tenmongakusha-ga *ni-jikan* atarashii wakusei-o mitsuke   -ta.
        amateur   astronomer-NOM   2-hour   new   planet-ACC find   -PST
        ('An amateur astronomer discovered a new planet for two hours.')

      b. #Kagekiha-ga *ni-nenkan* ano kuni-no   seijika-o   ansatsushi -ta.
        radicals-NOM 2-year   that country-GEN   politician-ACC assassinate -PST
        ('The radicals assassinated that county's politicians for two years.')

As predicted by the proposed analysis, when these verbs are embedded under *hajime-* 'begin' and *tsuzuke-* 'continue', long passive is not available.

(59) a. Atarashii wakusei-ga   amachua tenmongakusha-niyotte mitsuke **-rare**
        new   planet-NOM   amateur   astronomer-BY   find   -PASS
        -tsuzuke   -ta.
        -continue -PST
        'New planets continued to be discovered by amateur astonomers.'

      b. #Atarashii wakusei-ga   amachua tenmongakusha-niyotte mitsuke -tsuzuke
         new   planet-NOM   amateur   astronomer-BY   find   -continue
        -rare   -ta.
        -PASS   -PST
        ('New planets continued to be discovered by amateur astonomers.')

(60) a. Ano   kuni-no   seijika-ga   kagekiha-niyotte   ansatsus **-rare**
        that   country-GEN politician-NOM radicals-BY   assassinate -PASS
        -tsuzuke   -ta.
        -continue -PST
        'The politicians in that country continued to be assassinated by the radicals.'

      b. #Ano   kuni-no   seijika-ga   kagekiha-niyotte ansatsushi -tsuzuke
         that   country-GEN politician-NOM radicals-BY   assassinate -continue
        -rare   -ta.
        -PASS   -PST
        ('The politicians in that country continued to be assassinated by the radicals.')

In sum, while my analysis predicts that *hajime-* 'begin' and *tsuzuke-* 'continue' are compatible with both a passive complement and long passive, it also predicts that the latter should be acceptable only when the verbal complement of *hajime-* 'begin' and *tsuzuke-* 'continue' expresses an accomplishment. The new empirical data introduced in this section show that this prediction is borne out.

4.2 Subject Honorification

Subject honorification is used to express the speaker's respect toward the subject. It involves a complex morpho-syntactic process, in which a verb is framed between two particles, *o-* and *-ni*, (henceforth *subject honorific markers*) and followed by another verb, *nar-* 'become' (Harada 1976; Suzuki 1989; Toribio 1990; Boeckx and Niinuma 2004; Bobaljik and Yatsushiro 2006; Takita 2006; among others).

(61) Sensei-ga   **o**-hanashi-**ni**   **nar**   -ta.
      teacher-NOM   **HON**-talk-**HON** become -PST
      'The teacher talked.'

Previous studies have noted that the four Japanese aspectual verbs interact differently with these subject honorific markers. First, with *hajime-* 'begin' and *tsuzuke-* 'continue', there are two ways in which the subject honorific markers can be attached to verbs. The subject honorific markers may frame the embedded verb and the aspectual verb together, as in (62a), or they may frame the embedded verb alone, with the aspectual verb following *nar-* 'become', as in (62b) (Shibatani 1983; Kuno 1987; Matsumoro 1996).

(62) a. Sensei-wa   tegami-o   **o**-kaki   -hajime-**ni**   nar   -ta.
          teacher-TOP   letter-ACC   **HON**-write   -begin-**HON**   become   -PST

      b. Sensei-wa   tegami-o   **o**-kaki-**ni**   nari   -hajime   -ta.
          teacher-TOP   letter-ACC   **HON**-write-**HON**   become -begin   -PST
          'The teacher began to write the letter.'

                                                                        (Shibatani 1978:155; (ex.229))

With *owar-* 'end', the only grammatical option is for the subject honorific markers to frame the embedded verb alone (63a). They cannot frame the aspectual verb and the embedded verb together (63b) (Matsumoto 1996).

(63) a. Sensei-ga   tegami-o   **o**-kaki-**ni**   nari   -owari   -mashi   -ta.
          teacher-NOM   letter-ACC   **HON**-write-**HON** become -end   -POL   -PST

      b. *Sensei-ga   tegami-o   **o**-kaki-owari-**ni**   nari   -mashi   -ta.
          teacher-NOM   letter-ACC   **HON**-write-end-**HON**   become -POL   -PST
          'The teacher was done writing the letter.'
                                                              (Matsumoto 1996:179-180; (exx.16a&18a))

The opposite pattern obtains with *oe-* 'finish': the only grammatical option with *oe-* 'finish' is for the subject honorific markers to frame the aspectual verb and the embedded verb together (64a) (Kuno 1987).

(64) a. Yamada-sensei-wa   sono hon-o   go-nen-go-ni   **o**-kaki-oe-**ni**
          Yamada-teacher-TOP   that   book-ACC   five-year-after-at   **HON**-write-finish-**HON**
          nar   -ta.
          become   -PST

      b. *Yamada-sensei-wa   sono hon-o   go-nen-go-ni   **o**-kaki-**ni**
          Yamada-teacher-TOP   that   book-ACC   five-year-after-at   **HON**-write-**HON**
          nari   -oe   -ta.
          become   -finish   -PST
          'Teacher Yamada finished writing that book five years later.'
                                                                        (Kuno 1987:104; (ex.15))

Under the proposed analysis, the different interactions between the subject honorific markers and the four Japanese aspectual verbs can be accounted for with the assumption that the verb *nar-* 'become' in subject honorification is a kind of *v*. While presenting a complete argument for this particular analysis of subject honorification is beyond the scope of this study, I will provide one point that suggests this analysis is on the right track. Examples like (65) below show that a subject honorific complex may appear without *nar-* 'become'.

(65) [Sensei-no   nimotsu-no   **o**-okuri]-ga   okure   -ta.
      [teacher-GEN   package-GEN   **HON**-send]-NOM   delay   -PST
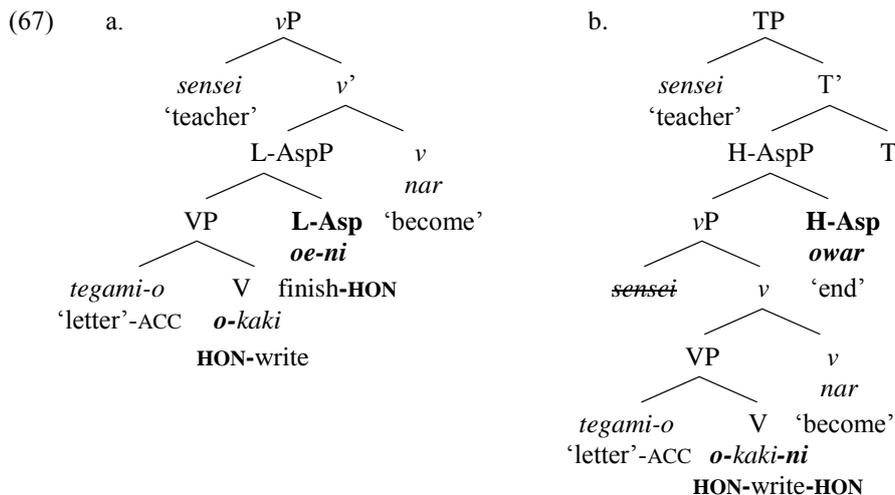   'The teacher's sending of the package was delayed.'

(Takita 2006:54; (ex.2b))

(65) shows that a subject honorific complex can be a subject, and this suggests that the syntactic category of the subject honorific complex is a noun. In fact, many previous studies agree that subject honorific complexes should be analyzed as nominalized verbal projections, with *-ni* analyzed as a case marker (Suzuki 1989; Toribio 1990; Bobaljik and Yatsushiro 2006; Takita 2006). Here, what is crucial for the present discussion is that the object of the nominalized verb be marked with genitive case *-no* when the subject honorific complex appears without *nar-* 'become' (66a). In order for the object to bear accusative case, the subject honorification complex must be followed by *nar-* 'become' (66b).

(66) a. [Sensei-no/*ga   nimotsu-no/*o   **o**-okuri]-ga   okure   -ta.
         [teacher-GEN/*NOM   package-GEN/*ACC   **HON**-send]-NOM   delay   -PST
         'The teacher's sending a package was delayed.'

     b. Sensei-ga   nimotsu-o   **o**-okuri-**ni**   nar   -ta.
         teacher- NOM   package- ACC   **HON**-send-**HON**   become   -PST
         'The teacher sent the package.'

One way to account for the contrast between (66a) and (66b) is to assume that it is *nar-* 'become' that provides accusative case to the object. In other words, *nar-* 'become' is a type of *v*.

Under the analysis of *nar-* 'become' as *v*, the proposed analysis provides the following account of the subject honorification data. According to my analysis, *oe-* 'finish' can only be L-Asp. Therefore, it is dominated by *nar-* 'become' in *v*. Thus, a sentence with *oe-* 'finish' and the subject honorific markers has (67a) as its underling structure. On the other hand, *owar* 'end' can only be H-Asp. Thus, *owar-* 'end' dominates *nar-* 'become in *v*. This gives (67b) as the underlying structure of a sentence with *owar-* 'end' and the subject honorific markers.

(67)   a.   *v*P   b.   TP

              sensei   *v*'   *sensei*   T'
              'teacher'   'teacher'
                         L-AspP   *v*   H-AspP   T
                                       nar
                    VP   **L-Asp** 'become'   *v*P   **H-Asp**
                              oe-ni   *owar*
             tegami-o   V   finish-**HON**   ~~sensei~~   *v*   'end'
             'letter'-ACC   *o-kaki*
                       HON-write   VP   *v*
                                                                        nar
                                                     tegami-o   V   'become'
                                                     'letter'-ACC *o-kaki-**ni***
                                                              HON-write**-HON**

In (67a), *oe-* 'finish' immediately follows the main verb *kak-* 'write', and together they form a subject honorific complex, with *nar-* 'become' immediately dominating the complex. This hierarchical structure accounts for the grammatical word order in (64a) (HON-write+finish-HON become). Since the structure in (67a) is the only available option for *oe-* 'finish', it never occurs following *nar-* 'become'. This accounts for the ungrammaticality of (64b) (*HON-write-HON become finish). In contrast, *owar-* 'end' dominates *nar-* 'become' in (67b). Thus, *owar-* 'end'

follows *nar-* 'become' in the linear order. This accounts for the linear order in the grammatical (63a) (HON-write-HON become end). Since the structure in (67b) is the only available option for *owar-* 'end', it never intervenes between the main verb and *nar-* 'become'. This accounts for the ungrammaticality of (63b) (*HON-write+end-HON become). On the other hand, *hajime-* 'begin' and *tsuzuke-* 'continue' are compatible with both of the word orders (62) because these two aspectual verbs can be either L-Asp or H-Asp.

The proposed analysis of the four Japanese aspectual verbs and the analysis of subject honorification assumed here also predict that although *hajime-* 'begin' and *tsuzuke-* 'continue' are compatible with these two word orders ('HON-verb+begin/continue-HON become' and 'HON-verb-HON become begin/contiue') the availability of these two alternative word orders should correlate with the type of event expressed by verbal complements. In particular, if the verbal complements under *hajime-* 'begin' and *tsuzuke-* 'continue' are headed by verbs that do not express an accomplishment event, only the structure in (61b), in which an aspectual verb is H-Asp, should be available. In other words, *hajime-* 'begin' and *tsuzuke-* 'continue' should not be able to be a part of the subject honorific complex when their verbal complements express activities or iterative achievements.

This prediction is borne out, as shown by the following examples. Previous studies note that *hajime-* 'begin' cannot be a part of the subject honorific complex when the embedded verb is an unaccusative verb, as in (68) and (69) below (Shibatani 1978; Kuno 1987).

(68) a. #Okyakusan-ga **o**-tsuki-<u>hajime</u>-**ni**   nar   -ta.
      customers-NOM **HON**-arrive-begin-**HON** become -PST

   b. Okyakusan-ga **o**-tsuki-**ni**   nari   -<u>hajime</u> -ta.
      customers-NOM **HON**-arrive-**HON**   become -begin   -PST
      'The customers began to arrive.'

                                     (Shibatani 1978:155; (ex.230))

(69) a. #Hiyowana-okosan-ga   **o**-umare-<u>hajime</u>-**ni**   nar   -ta.
      weak-children-NOM   **HON**-be_born-begin-**HON** become -PST

   b. Hiyowana-okosan-ga   **o**-umare-**ni**   nari   -<u>hajime</u> -ta.
      weak-children-NOM   **HON**-be_born-**HON** become -begin   -PST
      'Weak children began to be born.'

                                       (Kuno 1987:103; (ex.11))

Since these unaccusative verbs express iterative achievement events, they are only compatible with an aspectual verb in H-Asp. Hence only the (b) examples in which H-Asp dominates *nar-* 'become' are grammatical in (68) and (69) above.

Similarly, the following examples show that *hajime-* 'begin' and *tsuzuke-* 'continue' cannot be part of a subject honorific complex when their verbal complement unambiguously expresses an activity event, such as a sleeping event.

(70) a. #Sensei-ga   **o-**nemuri   -<u>hajime</u>**-ni** nar   -ta.
      teacher-NOM   **HON-**sleep -begin**-HON** become -PST

   b. Sensei-ga   **o-**nemuri**-ni**   nari   -<u>hajime</u> -ta.
      teacher-NOM   **HON-**sleep**-HON** become -begin   -PST
      'The teacher began sleeping.'

(71) a. #Sensei-ga   **o-**nemuri-<u>tsuzuke</u>**-ni**   nar   -ta.
      teacher-NOM   **HON-**sleep-tsuzuke**-HON** become -PST

   b. Sensei-wa   **o-**nemuri**-ni**   nari   -<u>tsuzuke</u> -ta.
      teacher-TOP   **HON-**sleep**-HON** become -continue -PST
      'The teacher continued sleeping.'

Since pure activities such as *nemur-* 'sleep' are only compatible with *hajime-* 'begin' and *tsuzuke-* 'continue' as H-Asp, and H-Asp dominates *nar-* 'become', only the (b) examples are acceptable in (70) and (71) above.

4.3 Interactions between the Aspectual Verbs and the Focus Marker -*dake* 'only'

It has been pointed out that sentences where the focus element -*dake* 'only' occurs on an object under *hajime-* 'begin' and *tsuzuke-* 'continue' are ambiguous, while similar sentences with *oe-* 'finish' are unambiguous (Koizumi 1994, 1995, 1998).[8]

Let us first look at an example with *hajime-* 'begin' and -*dake* 'only' on the object of the head of the verbal complement.
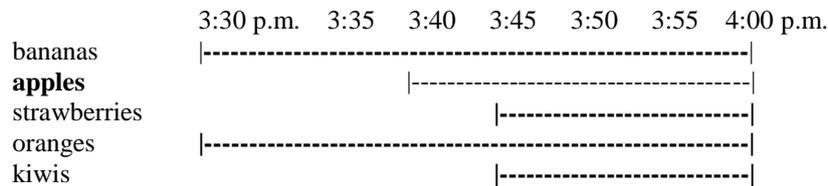
(72) John-wa   ringo-**dake**-o   tabe   -hajime -ta.
     J-TOP   apple-**only**-ACC   eat   -begin -PST
     'John began to eat only apples.'

(Koizumi 1995:61; (ex.4))
   a. It is only apples that John began to eat (at the relevant point of time).
   b. It is eat only apples that John began to do (at the relevant point of time).
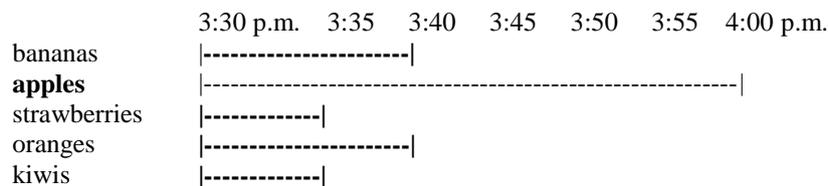
According to Koizumi, (72) denotes two different situations as described in (72a) and (72b). (72a) is a situation in which John was not eating apples before the relevant point of time, but began to do so at that time *and* he did not begin eating anything else at that same time. This is illustrated in the diagram in (73) below.

(73)   It is only apples that John began to eat (at 3:40).

```
                 3:30 p.m.  3:35   3:40   3:45   3:50   3:55   4:00 p.m.
    bananas      |-----------------------------------------------------|
    apples                       |---------------------------------|
    strawberries                         |-------------------------|
    oranges      |-----------------------------------------------------|
    kiwis                                |-------------------------|
```

(72b), on the other hand, denotes a situation in which John began eating apples and other food before the relevant point of time, and he stopped eating everything but apples at that time. This situation is illustrated in the diagram in (74) below.

(74)   It is eat only apples that John began to do (at 3:40).

```
                 3:30 p.m.  3:35   3:40   3:45   3:50   3:55   4:00 p.m.
    bananas      |----------------------|
    apples       |-------------------------------------------------------|
    strawberries |-------------|
    oranges      |----------------------|
    kiwis        |-------------|
```

Koizumi points out that the following example with *tsuzuke-* 'continue' and -*dake* 'only' is also ambiguous.

(75) John-wa   ringo-**dake**-o   tabe   -tsuzuke -ta.
     J-TOP   apple-**only**-ACC   eat   -continue -PST
     'John continued to eat only apples.'

(Koizumi 1995:62; (ex.8))
   a. Among many things that John ate, it is only apples that he kept eating (throughout the relevant time period).
   b. John kept eating apples and he did not eat anything else

(75a) denotes a situation in which John was eating different kinds of food, including apples, but he stopped eating everything except apples at the relevant point in time. This situation is illustrated in the diagram in (76) below.

---

[8] Koizumi (1994, 1995, 1998) does not present data with *owar-* 'end' and -*dake* 'only'. As pointed out by an anonymous reviewer, the nature of the scope interactions between *owar* 'end' and -*dake* 'only' is not clear, as the intuitions appear to differ among native speakers. I do not discuss *owar-* 'end' in this section given the unclear nature of the data.

(76) Among many things that John ate, it is only apples that he kept eating (between 3:30 and
      3:50).

```
                      3:30 p.m.   3:35    3:40    3:45    3:50    3:55   4:00 p.m.
        bananas       |------------|
        apples        |---------------------------------------|
        strawberries  |---------------------|
        oranges       |------------|
        kiwis         |---------------------|
```
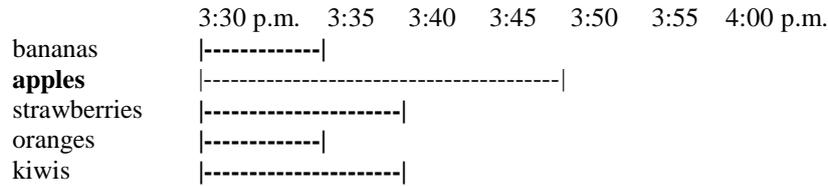
(75b) denotes a situation in which John kept eating only apples and nothing else within a relevant
time period. This situation is illustrated in the diagram in (77).

(77) (Between 3:30 and 3:50) John kept eating apples and he did not eat anything else.

```
                      3:30 p.m.   3:35    3:40    3:45    3:50    3:55   4:00 p.m.
        bananas
        apples        |---------------------------------------|
        strawberries
        oranges
        kiwis
```

    Koizumi's observation—that sentences with *hajime-* 'begin', *tsuzuke-* 'continue', and
-dake 'only' have two interpretations—is problematic under the presuppositional analysis of focus
markers such as *only* (cf. Horn 1969; Rooth 1985; see Ippolito 2007 for a discussion of different
and more recent analyses of *only*). Under such an analysis of focus, what *-dake* 'only' does in
examples such as (72) and (75) is to (i) introduce the presupposition that the propositions that
these sentences express without *-dake* 'only' are true and (ii) assert that all other contextually
relevant alternative propositions are false. In (72), *-dake* 'only' introduces the presupposition that
'John began to eat apples' is true (78a), and asserts that all other contextually relevant alternative
propositions, which can be created by replacing *ringo* 'apple' with other potential food items, are
false (78b).

(78) John-wa   ringo-**dake**-o   tabe   -hajime -ta.
      J-TOP   apple-**only**-ACC   eat   -begin   -PST
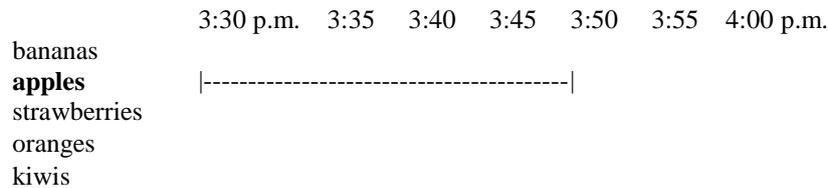   'John began to eat only apples.'
      a. presupposition   John began to eat apples.
      b. assertion   It is not the case that John began to eat bananas.
                               It is not the case that John began to eat strawberries.
                               It is not the case that John began to eat oranges.
                               …

    Now the problem is that the presuppositional and assertive content in (78a/b) only handles one
of the two readings that (72) receives, namely (72a). (78a/b) presupposes that John began to eat
apples at some point (e.g. 3:40 p.m.) and asserts that he did not begin eating anything else. This is
the reading paraphrased in (72a) and exemplified with the scenario in (73). (78a/b) cannot handle
the other interpretation of (72), paraphrased in (72b). According to this interpretation, John was
already eating apples at the relevant point in time (e.g. 3:40 p.m.) and was not eating anything else,
as illustrated in (74). The correct algorithm for the calculation of the semantic contribution of *-
dake* 'only' that would be able to handle the reading in (72b) should produce presuppositional and
assertive content suchas that in (79), which contains the presupposition that 'John was eating
apples (at the relevant point in time)' (79a) and the assertion that 'John wasn't eating other food
items (at the relevant point in time)' (79b).

(79) a. presupposition   John was eating apples.
      b. assertion   John was not eating bananas.
                               John was not eating strawberries.
                               John was not eating oranges.
                               …

Crucially, the aspectual verb is not a part of the presupposition introduced by *-dake* 'only' in (72b) while it is in (72a). Thus, a close look at the two interpretations of (72) reveals that *-dake* 'only' introduces two different sets of presuppositions. This is possible only if there are two different propositions associated with (72), from which two different sets of alternative propositions are generated.

A similar observation can be made about (75), repeated below as (80). Under the presuppositional analysis of the focus marker *-dake* 'only', (80) presupposes (80a) and asserts (80b).

(80) John-wa   ringo-**dake**-o   tabe   -tsuzuke   -ta.
      J-TOP   apple-**only**-ACC   eat   -continue   -PST
      'John continued to eat only apples.'
  a. presupposition   John continued to eat apples.
  b. assertion   It is not the case that John continued to eat bananas.
                         It is not the case that John continued to eat strawberries.
                         It is not the case that John continued to eat oranges.

While (80a/b) captures the interpretation in (75a), in which John began to eat different food items but continued to eat only apples after the relevant point in time, the assertive content in (80b) fails to capture the other interpretation, given in (75b), in which John never ate any other food items. The reading in (75b) expresses a situation in which John was eating apples (during the relevant time period) and John was not eating any other food items (in the same time period). Under this reading, *-dake* 'only' should introduce the presupposition in (81a) and the assertion in (81b).

(81) a. presupposition   John was eating apples.
      b. assertion   John wasn't eating bananas.
                             John wasn't eating strawberries.
                             John wasn't eating oranges.
                             …

Again, the crucial difference between the presuppositional and assertive content in (80) and (81) is that the aspectual verb is a part of such content in (80) but not in (81).

With *-dake* 'only' attached to the same NP, how can these two different sets of presuppositions introduced by *-dake* 'only' be accounted for? I argue that my analysis of *hajime-* 'begin' and *tsuzuke-* 'continue' provides an account for these sets of presuppositions introduced by *-dake* 'only', a fact which provides a further suppor for my analysis. Under my analysis, *hajime-* 'begin' and *tsuzuke-* 'continue' occur either as H-Asp or L-Asp. Where *hajime-* 'begin' is H-Asp, example (72) (which is repeated as (82a) below) has the underlying structure in (82b).

(82) a. John-wa   ringo-**dake**-o   tabe   -hajime   -ta.
          J-TOP   apple-**only**-ACC   eat   -begin   -PST
          'John began to eat only apples.'

                                                              (Koizumi 1995:61; (ex.4))

b.

the presupposition introduced by *-dake* 'only'
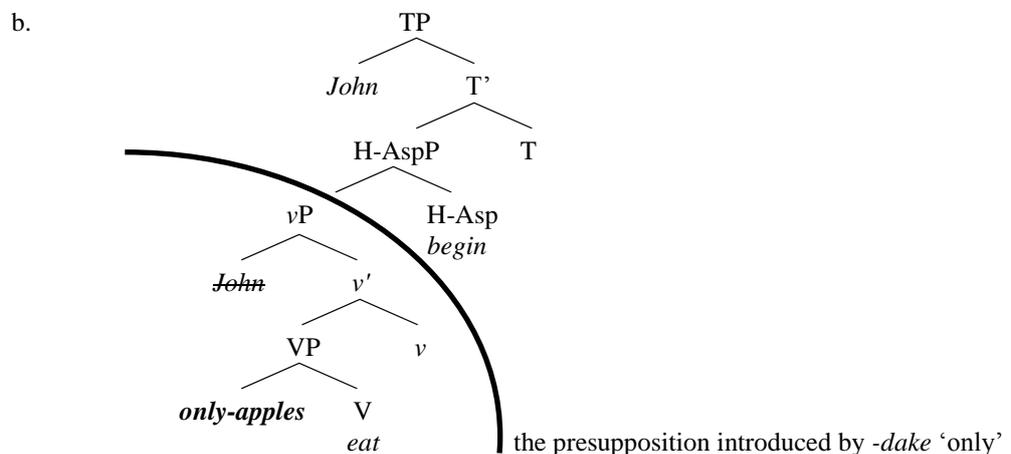
In this structure, *-dake* 'only' is inside the *v*P embedded under the aspectual verb. Here, let us assume that *-dake* 'only' introduces the presupposition that the proposition expressed by the minimum *v*P in which *-dake* 'only' occurs is true (see Bobaljik and Wurmbrand (2007:38; fn.10) for a similar suggestion).[9] Under such an assumption, *-dake* 'only' introduces the presupposition that John was eating apples at the relevant point of time, and asserts that it is not the case that John was eating anything else. As such, the aspectual verb itself is outside of the scope of *-dake* 'only'. This accounts for the reading in (72b), in which the aspectual verb is not a part of the presupposition introduced by *-dake* 'only'.

Now let us look at the other possibility, namely, when *hajime-* 'begin' is L-Asp. In this case, the same sentence (72) (= (82a)) has the underlying structure in (83).

(83)
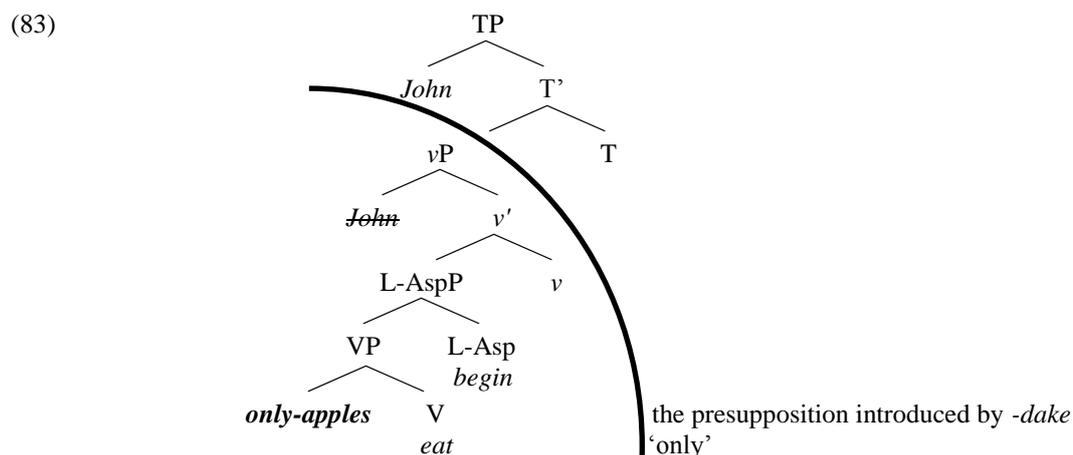
In this structure, *-dake* 'only' is inside the *v*P that includes the aspectual verb. As such, the aspectual verb is part of the presupposition introduced by *-dake* 'only', given the above assumption about the scope of *-dake* 'only'.

Koizumi (1995) also observes that a sentence with *oe-* 'finish' and *-dake* 'only', such as (84) below, is unambiguous.

(84) John-wa   ringo-**dake**-o   tabe -oe   -ta.
       J-TOP   apple-only-ACC   eat   -finish -PST
       a.   Among the different fruits that John ate, he only finished eating apples.
       b. # John finished only eating apples and he ate nothing else.

                                                     (modified from Koizumi 1995:63; (ex.12))

In (84), *-dake* 'only' introduces the presupposition in (85a) and asserts (85b).

(85) a.   John finished eating apples.
       b.   It is not the case that John finished eating bananas.
             It is not the case that John finished eating strawberries.
             It is not the case that John finished eating oranges.
             …

Because *oe-* 'finish' is L-Asp, the reading in (84) is accounted for by the same underlying structure in (83), in which the aspectual verb is a part of the presupposition introduced by *-dake* 'only'.

As pointed out by an anonymous reviewer, the proposed analysis of the interactions between *-dake* 'only' and the Japanese aspectual verbs predicts that each of the two interpretations triggered by *-dake* 'only' with *hajime-* 'begin' and *tsuzuke-* 'continue' should co-occur with an embedded verbal complement of a particular event type. Let us look at a concrete example to illustrate this prediction. According to the proposed analysis, a sentence with *-dake* 'only' and *hajime-* 'begin', such as (86) below, has the interpretation in (86a) when *hajime-* 'begin' is L-Asp, whereas the same sentence has the interpretation in (86b) when *hajime-* 'begin' is H-Asp.

---

[9] Here I assume that a proposition can be complete without information that involves functional projections above *v*P, such as tense, viewpoint aspect, and force.

(86) John-wa   ringo-**dake**-o   tabe   -hajime -ta.
   J-TOP apple-**only**-ACC eat -begin -PST
   'John began to eat only apples.'

<div align="right">(Koizumi 1995:61; (ex.4))</div>

  a. It is only apples that John began to eat (at the relevant point of time). ➔ **L-Asp**
  b. It is eat only apples that John began to do (at the relevant point of time). ➔ **H-Asp**

Under the proposed analysis, L-Asp requires accomplishment events while H-Asp is compatible with any durative event. Thus, when (86) has the interpretation in (86a), its verbal complement must express an accomplishment event, whereas (86) can express any durative event when it has the interpretation in (86b).
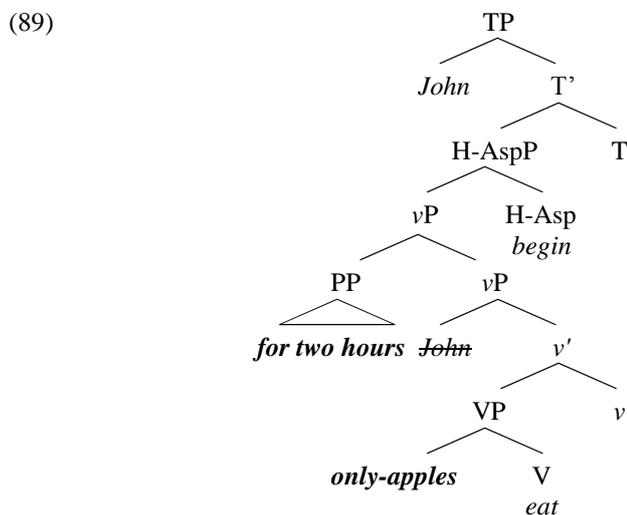
 Evidence based on temporal adverbials suggests that this prediction is indeed a correct one. As previously discussed in Sections 3.1.1 and 4.1, time-span adverbials (e.g. *ni-jinkan-de* 'in two hours') and durative adverbials (e.g. *ni-jikan* 'for two hours') can be used to distinguish telic events such as accomplishments from atelic events such as activities. In particular, a time-span adverbial is compatible with telic events but not atelic ones, while a durative adverbial exhibits the opposite pattern: it is compatible with atelic events and incompatible with telic ones. We can therefore use these adverbials to test the prediction above. Since the interpretation in (86a) requires an accomplishment event, and an accomplishment event is incompatible with a durative adverbial, adding a durative adverbial to (86) should eliminate the interpretation in (86a) and allow only for the interpretation in (86b). This is exactly what we observe. When a durative adverbial *ni-jikan* 'for two hours' is added to (86), as in (87) below, it has only the interpretation in (86b), according to which John began eating apples at a certain time, and he never ate other fruits, with the durative adverbial specifying the duration of the event of John's eating only apples.

(87) John-wa   *ni-jikan*   ringo-dake-o   tabe   -hajime -ta.
   J-TOP two-hour apple-only-ACC eat -begin -PST
   'John began to eat only apples for two hours.'

Here, it is important to note that the durative adverbial cannot be interpreted as modifying *hajime-* 'begin' in (87). If it were interpreted as such, (87) would be infelicitous because *hajime-* 'begin' expresses the inception of events, and the inception lacks duration. The following example (88) shows that *hajime-* 'begin' is incompatible with a durative adverbial when it is a main verb.

(88) #John-wa   *ni-jikan*   shukudai-o   -hajime -ta.
   J-TOP two-hour homework-ACC -begin -PST
   ('John began his homework for two hours.')

Since the durative adverbial is not interpreted as modifying *hajime-* 'begin', I assume that the durative adverbial is adjoined at a position that is lower than where *hajime-* 'begin' is. Following MacDonald's (2008) analysis of durative adverbials in English, I assume that durative adverbials are adjoined to *v*P. Under this assumption, (87) has the underlying structure in (89) below, wherein the durative adverbial is under the scope of *hajime-* 'begin' but it takes scope over the embedded event (John's eating only apples).

(89)

```
                              TP
                           /      \
                        John       T'
                                 /      \
                            H-AspP        T
                           /      \
                         vP        H-Asp
                        /   \      begin
                      PP     vP
                     /  \    /  \
          for two hours  John   v'
                               /   \
                             VP     v
                            /   \
                    only-apples   V
                                 eat
```

Thus, our evidence strongly suggests that *hajime-* 'begin' is H-Asp and has an atelic embedded event when it has the interpretation in (86b), as predicted by the proposed analysis.

On the other hand, when a time-span adverbial such as *ni-jinkan-de* 'in two hours' is added to (86), as in (90), it has only the interpretation in (86a), according to which John was eating different fruits but began to eat only apples at a certain time, with the time-span adverbial specifying the time it took for John to began eating only apples (i.e., it took him two hours to stop eating other fruits).

(90) John-wa   *ni-jikan-de*   ringo-dake-o   tabe   -hajime -ta.
       J-TOP   two-hour-in   apple-only-ACC   eat   -begin -PST
       'John began to eat only apples in two hours.'

According to the proposed analysis, the interpretation in (86a) obtains when *hajime-* 'begin' is L-Asp. Therefore, the embedded event must be an accomplishment in (86a). Since the time-span adverbial can only be interpreted as modifying *hajime-* 'begin', (90) does not directly show that the embedded event with the interpretation in (86a) is an accomplishment event. However, the interpretation of (90) supports the proposed analysis for another reason. Based on the observation that a durative adverbial takes scope over a time-span adverbial in English sentences like (91), MacDonald (2008) argues that the structural position of time-span adverbials is lower than the position of durative adverbials,

(91) a. John carried a goat into the barn in thirty seconds (for an hour straight).
      b. John dragged a log into the shed in ten seconds (for an hour straight).

                                                          (MacDonald 2008:131; (exx.5a&5b))

In these sentences, the time-span adverbial is interpreted as specifying the interval of the iterated events ('carrying a goat into the barn' and 'dragging a log into the shed') and the durative adverbial is interpreted as specifying the duration of a larger event consisting of smaller, iterated events. Similar sentences in Japanese show that a durative adverbial can take scope over a time-span adverbial in Japanese as well. (Unlike the English examples, Japanese sentences with these two adverbials seem to require the aspectual verb *tsuzuke-* 'continue'.)

(92) a. Taro-wa   *ni-jikan*   *go-byo-de*   kotae-o   ate   -tsuzuke -ta.
          T-TOP   two-hour   five-second-in answer-ACC   hit   -continue -PST
          'Taro continued to find the correct answer in 5 seconds for two hours.'

      b. Keiko-wa *ni-jikan*   *go-byo-de*   baaberu-o   age   -tsuzuke -ta.
          K-TOP   two-hour   five-second-in barbell-ACC lift   -continue -PST
          'Keiko continued to lift the barbell in 5 seconds for two hours.'

Given the assumption that durative adverbials are adjoined to *v*P, the position of time-span adverbials must be lower than *v*P. Since the time-span adverbial is interpreted as modifying *hajime-* 'begin' in (90), the only possible adjunction site for the adverbial is L-AspP, as shown in (93).[10]

---

[10]In fact, MacDonald (2008:138; fn.19) suggests that time-span adverbials are adjoined to an aspect phrase (his equivalent of L-AspP) in English.

(93)

```
                        TP
                      /    \
                  John       T'
                           /    \
                         vP       T
                       /    \
                   ~~John~~   v'
                            /    \
                        L-AspP    v
                       /      \
                     PP        L-AspP
                    /  \       /     \
           in two hours  VP   L-Asp
                        /  \   begin
               only-apples  V
                            eat
```
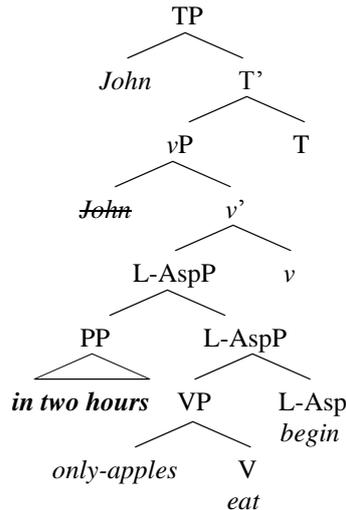
Note that (90/93) is unacceptable if a durative adverbial is present in addition to the time-span adverbial, unlike the example in (92). This is predicted by my analysis. A durative adverbial would have to take scope over *hajime-* 'begin' in (93) but *hajime-* 'begin' is incompatible with durative adverbials, as shown above.

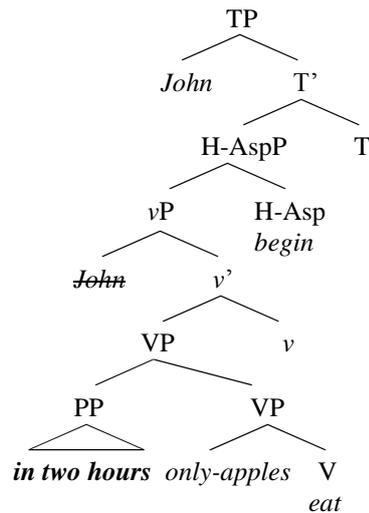But why is the other logically possible interpretation, in which the time-span adverbial modifies the embedded event, not available? In other words, why is the structure in (94) below not a possible underlying structure of (90)?

(94)

```
                        TP
                      /    \
                  John       T'
                           /    \
                       H-AspP     T
                      /      \
                    vP        H-Asp
                   /  \        begin
            ~~John~~   v'
                      /   \
                    VP      v
                   /  \
                 PP    VP
                /  \   /  \
      in two hours  only-apples  V
                               eat
```

Under the proposed analysis, (94) cannot be an underlying structure of (90) because the event embedded under H-Asp is interpreted as an activity, and the time-span adverbial is incompatible with atelic events such as activities.

Thus, if the aforementioned assumptions about temporal adverbials are to be maintained, *hajime-* 'begin' in (90) must be L-Asp. Since (90) has the interpretation in (86a), this fact in turn supports the proposed analysis of the interaction of *-dake* 'only' and the Japanese aspectual verbs, according to which *hajime-* 'begin' must be L-Asp with the interpretation in (86a).

4.4 Section Summary

In this section, I presented three supporting arguments for the proposed analysis of the four Japanese aspectual verbs. The additional passive data discussed in 4.1 show that the proposed analysis makes the right predictions regarding the availability of long passive with *hajime-* 'begin' and *tsuzuke-* 'continue' based on the event type of the verbal complement. The data from subject honorification discussed in 4.2 show that the proposed analysis offers accounts for the distribution of the four Japanese aspectual verbs in the subject honorification constructions, under the assumption that the auxiliary-like verb *nar-* 'become' involved in the subject honorification constructions is a type of *v*. The data concerning the interactions between the four Japanese

aspectual verbs and the focus marker *-dake* 'only' discussed in 4.3 also show that the proposed analysis not only offers an account for the phenomena but also that it makes the right predictions regarding previously unnoticed data. As such, these three sets of data provide additional arguments for the proposed analysis.

5   Aspectual Verbs as Functional Heads

One important aspect of the proposed analysis that has not been argued for explicitly is the claim that the four aspectual verbs are functional heads. This claim is particularly important to establish since all previous studies on Japanese aspectual verbs assume that they are lexical verbs that select for clausal complements, given that the standard analysis of aspectual verbs has been that they are control and raising verbs (Shibatani 1973, 1978; Kuno 1987; Kageyama 1993, 1999; Nishigauchi 1993; Koizumi 1994, 1995, 1998; Matsumoto 1996). In this section, I first argue against the control/raising analysis of the Japanese aspectual verbs by showing that there is no clear evidence that any of the four Japanese aspectual verbs must be a control verb. I then present arguments for the functional head analysis of the four Japanese aspectual verbs by showing that the results of applying the standard diagnostics for the functional vs. lexical distinction to these aspectual verbs are consistent with the functional head analysis.

5.1   Arguments against the Control Analysis of *oe-* 'finish'

Following Perlmutter's (1968, 1970) influential work on English aspectual verbs, the standard analysis of Japanese aspectual verbs has been that they are either control verbs, raising verbs, or ambiguous between the two. Under this approach, sentences with Japanese aspectual verbs usually have a bi-clausal structure, but occasionally involve a mono-clausal structure when they are control verbs (Shibatani 1973, 1978; Kuno 1987; Nishigauchi 1993; Kageyama 1993, 1999; Koizumi 1995, 1998; Matsumoto 1996).

The principal motivation behind the control/raising analysis of the four Japanese aspectual verbs comes from the observation that one of the four Japanese aspectual verbs, *oe-* 'finish', appears to impose selectional restrictions on its subjects. In what follows, I argue that (i) there are counterexamples to the control analysis of *oe-* 'finish', and (ii) the evidence that has motivated the control analysis of *oe-* 'finish' can be accounted for by alternative analyses that do not assume the control status of *oe-* 'finish'.

5.1.1.   Non-volitional Subjects and *oe-* 'finish'

One of the arguments for the control analysis of *oe-* 'finish' comes from an observation that *oe-* 'finish' appears to require volitional subjects, as suggested by examples such as (95).

(95) a. Buranko-wa   yure   #-oe/owar/hajime/tsuzuke   -ta.
          swing-TOP   swing   -finish/end/begin/continue   -PST
          'The swing #finished/was done/began/continued swinging.'

                                                              (Shibatani 1973:66–69)

      b. Ame-ga   huri   #-oe/hajime   -ta.
          rain-NOM   fall   -finish/began   -PST
          'Rain #finished/began falling.'

                                                    (Nishigauchi 1993:86; (exx.20b & 21b)

Examples such as those in (95) appear to show that while *hajime-* 'begin', *tsuzuke-* 'continue', and *owar-* 'end' are compatible with inanimate subjects such as *buranko* 'swing' and *ame* 'rain', *oe-* 'finish' is not. Under the control/raising analysis, this contrast can be captured by analyzing *oe-* 'finish' as a control verb, as distinct from other aspectual verbs that can be analyzed as raising verbs.

However, a closer consideration of these data shows that they do not support the control status of *oe-* 'finish', and that the ungrammaticality of examples such as (95) has an alternative explanation. As discussed in section 2.2, the verbal complement of *oe-* 'finish' must express an accomplishment (Nishigauchi 1993). Given this restriction, the examples in (95) are expected to be ungrammatical regardless of the volitionality of their subjects, since neither *yure-* 'swing' in (95a) nor *hur-* 'fall' in (95b) can be interpreted as expressing an accomplishment. This can be shown by the incompatibility of these verbs with time-span adverbials such as *ni-jikan-de* 'in two hours'.

(96) a. Buranko-ga *ni-jikan/#ni-jikan-de* yure -ta.
       swing-NOM 2-hour/2-hour-in   swing -PST
       'The swing swung for two hours/#in two hours.'

     b. Ame-ga   *ni-jikan/#ni-jikan-de* hur -ta.
       rain-NOM   2-hour/2-hour-in   fall - PST
       'It rained for two hours/#in two hours.'
       (Lit. 'Rain fell for two hours/#in two hours.')

If the volitionality of subjects is immaterial to the grammaticality of sentences with *oe-* 'finish' such as (95) above, one would expect *oe-* 'finish' to co-occur with non-volitional subjects as long as its complement expresses an accomplishment. While subjects of accomplishments are usually volitional (because accomplishments and activities require entities that are capable of initiating and sustaining events), it is also possible to find accomplishments whose subjects can be non-volitional. Some examples of verbs that express accomplishments and that can have non-volitional subjects are motion verbs, whose subjects can be non-volitional entities that are capable of self-sustained movements, and causative verbs, whose subjects can be non-volitional entities that can cause and sustain the relevant event. The following naturally occurring examples of *oe-* 'finish' show that *oe-* 'finish' can have a non-volitional subject with these verbs.

(97) a. **Densha**-ga hashi-o   watari -<u>oe</u>   -ta   tokorode…[11]
       train-NOM bridge-ACC cross   -finish -PST   when
       'When the train finished crossing the bridge…'

     b. Setsunai **honoo**-ga subete-o   moyashi -<u>oe</u>   -ta -ato…[12]
       sorrowful   **flame**-NOM everything-ACC burn$_{TR}$ -finish -PST -after
       'After the sorrowful flame finished burning everything…'

     c. Shiboo-o tokashi -<u>oe</u>   -ta **yakuhin**-wa toke-ta   shiboo-to-isshoni…[13]
       fat-ACC melt   -finish -PST **drug**-TOP   melt- PST fat-with-together
       'The drug that finished melting body fat together with the melted body fat…'

(97a) is an example of a motion verb, *water-* 'cross', whose subject is *densha* 'train', a vehicle. (97b) and (97c) are examples of causative verbs whose subjects are substances, as in *honoo* 'flame' and *yakuhin* 'drug'. These examples show that *oe-* 'finish' does not impose selectional restrictions on its subject. Thus, they are counterexamples to the claim that *oe-* 'finish' is a control verb.

5.1.2. Idiomatic Expressions with Subjects and *oe* 'finish'

Another argument that has been used to motivate the control analysis of *oe-* 'finish' is the observation that *oe-* 'finish' is incompatible with idiomatic expressions that involve subjects.

(98) Usawa-ga uwasa-o   yobi -<u>hajime</u>/#oe   -ta.
     rumor-NOM rumor-ACC call   -begin/#finish -PST
     'Rumors began/*finished spreading in various directions.'
     (Lit. 'Rumors began/finished calling other rumors.')
                                   (Nishigauchi 1993:89; (exx.28a & 28b)

This argument also faces problems. If *oe-* 'finish' is infelicitous in (98) because *oe-* 'finish' is a control verb, such an analysis predicts that the idiomatic expression in (98) should be compatible with putative raising aspectual verbs, such as *hajime-* 'begin', *tsuzuke-* 'continue', and *owar-* 'end'. However, the idiomatic expression in (98) is incompatible with *owar-* 'end', as shown in (99) below.

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[11] http://www.books.google.com/

[12] http://www.marionetto.com/

[13] http://www.tsukahara-clinic.com/

(99) #Usawa-ga   uwasa-o   yobi -<u>owar</u> -ta.
    rumor-NOM rumor-ACC call -end   -PST
    ('Rumors were done spreading in various directions.')

Other idiomatic expressions involving subjects, such as (100a) and (100b), are also incompatible with both *oe-* 'finish' and *owar-* 'end', while they are compatible with *hajime-* 'begin' and *tsuzuke-* 'continue'.

(100) a. Tombi-ga taka-o   umi   -<u>hajime/tsuzuke/#owar/#oe</u>   -ta.
      kite-NOM hawk-ACC give_birth_to -begin/continue/#end/#finish -PST
      'Ordinary parents began/continued/#were done/#finished producing outstanding children.'
      (Lit. 'Kites began/continued/were done/finished giving birth to hawks.')

    b. Rui-ga   tomo-o   yobi -<u>hajime/tsuzuke/#owar/#oe</u>   -ta.
      kind-NOM friend-ACC call -begin/continue/#end/#finish -PST
      'Birds of a feather began/continued/#were done/#finished flocking together.'
      (Lit. 'Kinds began/continued/were done/finished calling their friends.')

What these examples suggest is that these idiomatic expressions are incompatible with the completive aspect expressed by *oe-* 'finish' and *owar-* 'end'. Regardless of the exact cause of the incompatibility between these idiomatic expressions and the completive aspect expressed by these aspectual verbs, the fact that both completive aspect verbs are incompatible with these idiomatic expressions undermines the argument that *oe-* 'finish' is a control verb because it is incompatible with idiomatic expressions.[14]

    Since there is not sufficient evidence for maintaining the control analysis of *oe-* 'finish', presumably the only unambiguous control aspectual verb, I conclude that the control/raising analysis of the Japanese aspectual verbs cannot be maintained.[15]

5.2 Arguments for the Functional Status of the Japanese Aspectual Verbs

The issue of whether restructuring verbs should be analyzed as functional heads or lexical verbs has generated interesting debates. The idea that restructuring verbs are functional heads that lack the properties of lexical verbs has been around for a while. For instance, Napoli (1981) analyzes restructuring verbs as special cases of semi-auxiliary verbs, while Rosen (1990) analyzes them as special cases of light verbs. The basic claim behind these analyses is that restructuring verbs lack their own argument structure. In Rosen's work, restructuring verbs as light verbs acquire the argument structure of their verbal complements. The strongest claim that has been made regarding

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[14] As pointed out by an anonymous reviewer, this argument can be strengthened if there are examples of idiomatic expressions that involve subjects that are compatible with *owar-* 'end' and *oe-* 'finish'. However, I was unable to find such idiomatic expressions. One possible explanation for the incompatibility of the completive aspect verbs with idiomatic expressions is that the completive aspect verbs require eventive complements, unlike *hajime-* 'begin' and *tsuzuke-* 'continue', which are compatible with stative complements, as shown below.

(i) a. Taro-ga hadena huku-o   konomi -hajime/tsuzuke/#owar/#oe -ta.
     T-NOM   flashy clothes-ACC prefer -begin/continue/#end/#finish -PST
     'Taro began/continued to prefer flashy clothes.'
     #'Taro was done/finished preferring flashy clothes.'

    b. Sono senshu-no taido-ga   mondai-de ari -hajime/tsuzuke/#owar -ta.
     that player-GEN attitude-NOM issue-as be -begin/continue/#end -PST
     'That player's attitude began/continued to be an issue.'
     #'That player's attitude was done being an issue.'

Since idiomatic expressions are non-referential and therefore non-eventive, they are incompatible with the completive aspect verbs that require eventive complements.

[15] Similar arguments have been made against the control/raising analysis of English aspectual verbs (Fischer and Marshall 1968; Givón 1973; Newmeyer 1975; Freed 1979; Brinton 1988; Rochette 1999).

the functional head analysis of restructuring verbs is exemplified in Cinque (2003 and 2004), who proposes that all restructuring verbs are functional heads that are part of the highly articulated hierarchical structure of functional elements originally proposed in Cinque (1999). However, Wurmbrand (2004) challenges this hypothesis and argues that restructuring verbs can be either functional heads or lexical verbs, based on evidence from German restructuring verbs that exhibit properties of lexical verbs. Cardinaletti and Giusti (2001) also argue that it is not always possible to make a distinction between functional heads and lexical verbs. They argue that some motion verbs in Romance and Germanic languages are lexical verbs that merge in functional head positions.

Many of these aforementioned studies use a set of diagnostics to determine the functional vs. lexical distinction of predicates. In what follows, I apply these diagnostics to the four Japanese aspectual verbs and show that the results support the claim that they are functional heads.

5.2.1 The Ability to Select for Internal Arguments

One of the diagnostics that has been used to determine the functional vs. lexical status of predicates is the ability to assign θ-roles (Cardinaletti and Giusti 2001; Cinque 2003, 2004; Wurmbrand 2004). Functional heads, by definition, do not have argument structure. Consequently, they do not assign θ-roles (e.g., they do not select for internal arguments). In contrast, the ability to impose selectional restrictions on their complements is the hallmark of lexical verbs.

Citing Kayne's (1989) observation that the standard cases of restructuring verbs do not involve object control, Cinque (2004) argues that the absence of internal arguments with restructuring verbs follows from his analysis that all restructuring verbs are functional heads that do not assign θ-roles. While Cinque's claim is challenged by the data presented in studies such as Moore (1998) and Wurmbrand (2004), which show restructuring verbs can select for internal arguments in Spanish and German, respectively, the generalization that functional heads lack the ability to select for internal arguments remains valid.

If the four Japanese aspectual verbs are functional heads, then when a verbal complement is present, they are expected to be unable to select for an internal argument. In other words, the four Japanese aspectual verbs are expected not to behave as object control verbs. This prediction is borne out, as indicated by the ungrammaticality of the object control (or causative) use of the aspectual verbs.

(101) a. *Taro-ga Jiro-ni shoorai-o kangae -hajime -ta.
        T-NOM J-DAT future-ACC think -begin -PST
        ('Taro started Jiro thinking about the future.')

    b. *Taro-ga Jiro-ni shoorai-o kangae -tsuzuke -ta.
        T-NOM J-DAT future-ACC think -continue -PST
        ('Taro kept Jiro thinking about the future.')

5.2.2 Complement Forms

Wurmbrand (2004) argues that the ability of a predicate to select for multiple forms of complement is an indication of its lexical status. Functional heads, on the other hand, are restricted to one form of complement (i.e., the non-finite form) because they are parts of simple sentences. For instance, English modals are restricted to co-occurring with non-finite complements, a fact which suggests that they are functional heads in the language (102). In contrast, lexical verbs such as *expect* select for different forms of complement, both non-finite (103a) and finite (103b).

(102) a. Bill must win the race.
    b. *Bill must that he will win the race.

(103) a. Bill expected to win the race.
    b. Bill expected that he will win the race.

Application of this criterion to the Japanese aspectual verbs provides further indication that they are functional heads rather than lexical verbs. As can be seen below, the Japanese aspectual verbs require their complement to have a verb in the non-finite form (104a), unlike clearly lexical verbs such as *yakusokus*- 'promise', whose complement has a verb in a finite form (104b).

(104) a. *Taro-ga mainichi hashir **-u** (-to) <u>-hajime/tsuzuke</u> -ta.
　　　 T-NOM everyday run **-PRS** (-COMP) -begin/continue -PST
　　　 ('Taro began/continued that he ran everyday.')

　　 b. Taro-ga mainichi hashir **-u** -to yakusokus -ta.
　　　 T-NOM everyday run **-PRS** -COMP promise -PST
　　　 'Taro promised to run every day.'

5.2.3 Ordering Restrictions

The third criterion refers to ordering restrictions. Previous studies show that functional heads exhibit ordering restrictions with respect to each other and other functional heads, while lexical verbs do not exhibit such restrictions, and can freely occur in different orders as long as semantic and pragmatic factors are taken into consideration (Cardinaletti and Giusti 2001; Cinque 2003, 2004; Wurmbrand 2001, 2004). Thus, while the order between a modal and the passive *be* is fixed (105), lexical verbs such as *require* and *ask* can switch their order (106).

(105) a.　Bill must be invited.
　　 b.　*Bill is must invited.

(106) a.　Bill required Jim to ask Sally to resign.
　　 b.　Bill asked Jim to require Sally to resign.

　　 The proposed analysis of the four Japanese aspectual verbs predicts that only certain orders between the four Japanese aspectual verbs should be grammatical. Since *oe-* 'finish' can only be L-Asp and *owar-* 'end' can only be H-Asp, while *hajime-* 'begin' and *tsuzuke-* 'continue' can be either L-Asp or H-Asp, there should be only six possible orders between two aspectual verbs, as summarized in Table 3 below, assuming that two aspectual verbs with the same aspectual distinction (e.g. two inceptive aspect verbs) would not co-occur.

Table 3: Predicted Possible Orders between Two Japanese Aspectual Verbs

	L-Asp	H-Asp
(i)	*oe-* 'finish'	*hajime-* 'begin'
(ii)	*oe-*'finish'	*tsuzuke-* 'continue'
(iii)	*hajime-* 'begin'	*tsuzuke-* 'continue'
(iv)	*hajime-* 'begin'	*owar-* 'end'
(v)	*tsuzuke-* 'continue'	*hajime-* 'begin'
(vi)	*tsuzuke-* 'continue'	*owar-* 'end'

The predictions in Table 3 are largely borne out, with one exception. The following ordering contrasts show that *oe-* 'finish' must precede *hajime-* 'begin' and *tsuzuke-* 'continue', as predicted by the proposed analysis.[16]

(107) a. #Taro-wa sono ringo-o tabe <u>-hajime</u> <u>-oe</u> -ta.
　　　　 T-NOM that apple-ACC eat -begin -finish -PST

　　 b. Taro-wa sono ringo-o tabe <u>-oe</u> <u>-hajime</u> -ta.
　　　　 T-NOM that apple-ACC eat -finish -begin -PST
　　　　 'Taro began to finish eating that apple.'

(108) a. #Sono sakka-ga shinsaku-o kaki <u>-tsuzuke</u> <u>-oe</u> -ta.
　　　　 that author-NOM new_book-ACC write -continue -finish -PST

　　 b. Sono sakka-ga shinsaku-o kaki <u>-oe</u> <u>-tsuzuke</u> -ta.
　　　　 that author-NOM new_book-ACC write -finish -begin -PST
　　　　 'That author continued to finish writing new books.'

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[16] I would like to thank an anonymous reviewer for providing the judgments for (107).

While it is difficult to find contexts in which the orders in (iii)–(vi) are plausible, the following examples show that these orders can be acceptable.

(109) a.　Taro-wa　daiissho-o　　nandomo　　kaki　-hajime　-tsuzuke　-ta.
　　　　　T-TOP　　chapter 1-ACC　many_times　write　-begin　-continue　-PST
　　　　　'Taro continued to begin writing chapter one.

　　　b.　Taro-wa　daiissho-o　　kaki　-hajime　-owar　　-ta.
　　　　　T-TOP　　chapter 1-ACC　write　-begin　-end　　-PST
　　　　　'Taro was done beginning to write chapter one.'

　　　c.　Keiko-ga　nikki-o　　kaki　-tsuzuke　-hajime　　-ta.
　　　　　K-NOM　　iary-ACC　write　-continue　-begin　　-PST
　　　　　'Keiko began to continue writing a diary.'

　　　d.　Taro-wa　hiza-o　　　nijyu-ppun　hiyashi　-tsuzuke　　-owar　-ta.
　　　　　T-NOM　　knee-ACC　20-min.　　ice　　　-continue　　-end　-PST
　　　　　'Taro was done continuing to ice his knees for twenty minutes.'

However, at least one ordering between two of the aspectual verbs that is predicted to be ungrammatical by the proposed analysis is in fact grammatical.

(110)　Taro-ga　bento-o　　tabe　-owari　-hajime　-ta.
　　　　T-NOM　lunch-ACC　eat　-end　　-begin　-PST
　　　　'Taro began to be done with his lunch.'

According to the proposed analysis, *owar-* 'end' can only be H-Asp. Thus, it should not be capable of being followed by another aspectual verb, contrary to fact. One way to account for (110), while maintaining the proposed distribution of the four Japanese aspectual verbs between L-Asp and H-Asp, is to hypothesize that these two aspect heads are further subdivided into smaller heads, where individual Japanese aspectual verbs occur in a particular hierarchical order within each of the aspect heads. In fact, a similar analysis has been proposed to account for the distribution of Romance aspectual verbs in Cinque (2003). Under such a hypothesis, (110) can be accounted for if the position of *hajime-* 'begin' is higher than the position of *owar-* 'end' within H-Asp. If this is the case, it should not be possible to have the passive morpheme *-(r)are-* between *owar-* 'end' and *hajime-* 'begin', since they are both H-Asp. This prediction is borne out.[17]

(111)　#Hotondo-no　bento-ga　　tabe　-owar　-are　　-hajime　-ta.
　　　　　most-GEN　　lunch-NOM　eat　-end　-PASS　-begin　-PST
　　　　　('Most of the lunch boxes began to be done being eaten.')

　　As for ordering restrictions between the Japanese aspectual verbs and other functional elements, it has already been demonstrated that the Japanese aspectual verbs exhibit consistent ordering restrictions with other functional elements in the same clause, such as the passive morpheme *-(r)are-* (Sections 3.3 and 4.1) and the morphemes involved in subject honorification

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[17] As an anonymous reviewer points out, the proposed analysis predicts that the embedded event must be an accomplishment when there are two aspectual verbs in a given sentence, because the embedded event under L-Asp must be an accomplishment. This prediction is borne out by all of the examples in (107) through (109), with the exception of (109d). The embedded event in (107b) and (108b) can only be an accomplishment because the first aspectual verb (L-Asp) is *oe-* 'finish', which requires an accomplishment event. As for the embedded events in (109a–c), they are interpreted as telic durative events with iterative interpretations. This suggests that they must be accomplishments, since only accomplishments are durative and telic. In contrast, the embedded event in (109d) can be interpreted as atelic, contra the prediction. One way in which this observation can be reconciled with the proposed analysis is to assume that there are two head positions within H-Asp, as suggested above in light of example (110). Under such an analysis, the two aspectual verbs in (109d) are both H-Asp.

(Section 4.2). Thus, the ordering restrictions between the Japanese aspectual verbs and other functional elements provide further support for the claim that they are functional heads.[18]

5.2.4 Grammaticalization

Grammaticalization refers to the historical process in which lexical morphemes are changed into functional morphemes (Hopper and Traugott 1993; Roberts and Roussou 2003; among many others). Grammaticalization typically involves changes in the semantic, morphological, and syntactic properties of morphemes that undergo it. A typical example of grammaticalization is the development of auxiliary verbs from verbs that select for a clausal complement, as in the case of English modals.

There are reasons to believe that the four Japanese aspectual verbs under discussion have undergone grammaticalization. First, these four Japanese aspectual verbs can be used as lexical verbs. When they are lexical verbs, their morphological forms indicate their transitivity, as illustrated by the following examples.

(112) a. Sensei-ga   jugyo-o   <u>hajime/*hajimar</u>   -ta.
       Teacher-NOM   lecture-ACC   begin$_{TR}$/begin$_{INTR}$ -PST
       'The teacher began the lecture.'

     b. Jugyo-ga   <u>hajimar/* hajime</u>   -ta.
       lecture-NOM   begin$_{INTR}$/*begin$_{TR}$ -PST
       'The lecture began.'

(113) a. Sensei-ga   jugyo-o   <u>tsuzuke/*tsuzuk</u>   -ta.
       Teacher-NOM   lecture-ACC   continue$_{TR}$/continue$_{INTR}$ -PST
       'The teacher continued the lecture.'

     b. Jugyo-ga   <u>tsuzuk/*tsuzuke</u>   -ta.
       lecture-NOM   continue$_{INTR}$/*continue$_{TR}$ -PST
       'The lecture continued.'

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[18] An anonymous reviewer asks if these aspectual verbs also show ordering restrictions with other known functional elements, such as the potential morpheme and negation. The negative -*nai* can only appear in finite contexts (cf. Kishimoto 2007). Since the verbal complement of the aspectual verbs must be in non-finite form, negation can only follow these aspectual verbs. It turns out that the potential morpheme must also follow an aspectual verb.

(i) a. Taro-wa   hachi-ji-ni   asagohan-o   tabe   (*-rare) <u>-hajime</u> -rare -ta.
      T-TOP   8-o'clock-at   breakfast-ACC eat   (*-POT)   -begin   -POT -PST
      'Taro could begin eating breakfast at eight o'clock.'

   b. Taro-wa   yoru-made   hon-o   yom   (*-e)   <u>-tsuzuke</u> -rare   -ta.
      T-TOP   night-til   book-ACC   eat   (*-POT) -begin   -POT   -PST
      'Taro could continue to read the book until night.'

   c. Taro-wa   ni-shuukan-de hon-o   kak   (*-e)   <u>-oe</u>   -rare -ta.
      T-TOP   2-weeks-in   book-ACC write (*-POT) -finish   -POT -PST
      'Taro could finish writing the book in two weeks.'

   d. Taro-wa   go-hun-de   bento-o   tabe   (*-rare) <u>-owar</u> -e   -ta.
      T-TOP   5-min.-in   lunch-ACC   write (*-POT)   -finish   -POT -PST
      'Taro was able to be done eating his lunch in five minutes.'

These ordering restrictions suggest that the position of the potential morpheme is between H-Asp and T. However, recent analyses of the potential morpheme, as in Nomura (2005) and Bobaljik and Wurmbrand (2007), argue that the potential morpheme can be as low as *v*. I leave this issue for future research.

(114) a. Sensei-ga   jugyo-o   <u>oe/*owar</u>   -ta.
         Teacher-NOM   lecture-ACC   end$_{TR}$/end$_{INTR}$ -PST
         'The teacher ended the lecture.'

      b. Jugyo-ga   <u>owar/*oe</u>   -ta.
         lecture-NOM   end$_{INTR}$/*end$_{TR}$ -PST
         'The lecture ended.'

The forms *hajime-*, *tsuzuke-* and *oe-* can only be used as transitive verbs, while the forms *hajimar-*, *tsuzuk-*, and *owar-* can only be used as intransitive verbs.

    However, when these aspectual verbs co-occur with a verbal complement, they lose the transitivity distinctions observed above. Only the transitive form of the inceptive and continuative aspect verbs may co-occur with a verbal complement regardless of the transitivity of the embedded verb ((115a) and (115b)). With the completive aspect verbs, both the transitive and intransitive forms co-occur with a verbal complement (115c).

(115) a. Akanbo-wa   aruki <u>-hajime/*hajimar</u>   -ta.
         baby-TOP   walk -begin$_{TR}$/begin$_{INTR}$ -PST
         'The baby began to walk.'

      b. Taro-wa hon-o   yomi <u>-tsuzuke/*tsuzuk</u>   -ta.
         T-TOP book-ACC   read   -continue$_{TR}$/continue$_{INTR}$ -PST
         'Taro continued to read the book.'[19]

      c. Taro-wa   hon-o   yomi <u>-oe/owar</u>   -ta.
         T-TOP   book-ACC read   -finish/end   -PST
         'Taro finished/was done reading the book.'

This neutralization of the transitivity distinctions has been used to argue that these Japanese aspectual verbs have undergone, or are undergoing, a grammaticalization process (Teramura 1984; Shibatani 1990; Nishiyama and Ogawa 2009). If these studies are correct, the loss of the transitivity distinctions provides further support for the functional head analysis of the four Japanese aspectual verbs.

6 Aspectual Verbs in Other Languages

In this section, I briefly review three previous studies that analyze the syntactic behavior of aspectual verbs from languages including Italian and other Romance varieties (6.1), German (6.2), and Basque (6.3). I argue that the data that these studies discuss, and the conclusions that they reach, support the core assumption of the proposed analysis of Japanese aspectual verbs: that aspectual verbs are functional heads occurring above or below *v*.

6.1 Romance Languages (Aissen and Perlmutter 1983; Cinque 2003)

Some of the first discussions of long passive are found in studies on Romance languages, such as in Rizzi (1978, 1982) and in Aissen and Perlmutter (A&P) (1983). In particular, A&P note that Spanish allows for long passive only with completive aspect verbs such as *terminar* 'finish' and *acabar de* 'finish', as exemplified with (116).

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[19] The only exception to this generalization is the following example, discussed in Teramura (1984).

(i) Isshuukan ame-ga   huri <u>-tsuzuk</u>   -ta.
    one_week rain-NOM   fall   -continue$_{INTR}$ -PST
    'It continued to rain for a week.'   (Teramura 1984:176; (ex.166))

As discussed in Teramura, *hur-* 'fall' seems to be the only verb that co-occurs with the intransitive form of the continuative aspect verb.

(116) a. Estas paredes están siendo <u>terminadas</u> de pintar (por los obreros).
   these walls are being finished to paint (by the workers)
   'These walls were finished being painted (by the workers),'

  b. Las casas fueron <u>acabadas</u> de pintar (por los obreros).
   the houses were finished to paint (by the workers)
   'The houses were finished being painted (by the workers).'

              (A&P 1983:390–391; (exx. P33b & P34b)

Cinque (2003) extends A&P's observations to other Romance languages, and shows that the four Romance languages that he examines also allow long passive with completive aspect verbs. In Italian, long passive is grammatical with an inceptive and completive aspect verb, but only marginally acceptable with a continuative aspect verb. Portuguese shows a similar pattern, in that long passive is the most natural with a completive aspect verb, marginal with an inceptive aspect verb, and not quite acceptable with a continuative aspect verb (Cinque 2003:53–54).

 Cinque argues that the fact that completive aspect verbs consistently allow long passive in the Romance languages can receive a simple account based on the hierarchy of functional projections that he proposed in Cinque (1999), according to which the aspectual verbs appear in semantically corresponding functional heads. Cinque notes that while the majority of functional heads associated with modality and aspect appear above the position of Voice, completive aspect crucially appears below Voice in his hierarchy. Assuming that a verb must raise to Voice to either pick up the passive morphology or to check the feature of the passive morphology, it follows that only verbs that are below Voice can be passivized (Cinque 2003:54). However, the fact that inceptive aspect verbs also allow for long passive in some Romance languages is problematic for this analysis, since inceptive aspect is positioned higher than Voice in Cinque's hierarchy. To account for this, Cinque suggests that there are two positions for each aspect: one that provides aspectual specification to unbounded events, and another for the bounded events. He presents the contrast seen in the following pair of examples (117) as a piece of evidence supporting his hypothesis.

(117) a. Furono <u>iniziate/?cominciate</u> a costruire solo due case.
   were begun$_1$/begun$_2$ to build only two houses
   'Only two houses were begun to be built.'

  b. * Furono <u>iniziate/cominciate</u> a construire case.
   were begun$_1$/begun$_2$ to build houses
   'Houses were begun to be built,'

              (Cinque 2003:56; (ex.10))

In (117a), the passivized object is quantified (*due case* 'two houses'), which makes the embedded event bounded ("building two houses"). In contrast, in (117b), the passivized object is a bare DP (*case* 'houses'), which only allows for an unbounded reading of the complement ("building houses"). Cinque suggests that only (117a) is grammatical because it is only in (117a) that the inceptive aspect verbs are below Voice. In (117b), the inceptive aspect verbs are above Voice, and long passive is ungrammatical.[20] Cinque also suggests that the dual-position analysis of aspectual

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[20] In (117), the subject DPs appear post-verbally, presumably because passive sentences with pre-verbal bare DP subjects are ungrammatical in Italian unless accompanied by a modifier. (See Longobardi 2000 for relevant discussions.) As for (117b), Ivano Caponigro (p.c.) points out that adding a modifier to the bare DP phrase improves its grammaticality, as in (i):

(i) ? Furono iniziate a construire case {molto lussuose/ con piscina/
  were begun to build houses {very luxurious/ with swimming-pool/
  e centri commerciali}.
  and shopping centers}
  '{Very luxurious houses/houses with a swimming pool/houses and shopping centers} were
   begun to be built.'

verbs should be generalized to all Italian aspectual verbs, based on the fact that all of the Italian aspectual verbs under discussion allow for passive complements (Cinque 2003:57).

There are obvious similarities between the proposed analysis of Japanese aspectual verbs and Cinque's analysis of Romance aspectual verbs. First, the two positions where Italian aspectual verbs arguably occur, the positions above and below Voice, are equivalents of H-Asp and L-Asp in the proposed analysis. Second, Cinque's analysis that the aspectual verbs below Voice modify bounded events is the equivalent of L-Asp requiring an accomplishment complement in my analysis. A clear difference between Japanese and Italian aspectual verbs is that apparently all aspectual verbs occur either as H-Asp or L-Asp in Italian, while only the inceptive and continuative aspects (i.e. *hajime-* 'begin' and *tsuzuke-* 'continue') do so in Japanese. One consequence of this difference is that in Japanese, *oe-* 'finish' is infelicitous with an unbounded activity, while Italian *finire* 'finish' is compatible with one (Cinque 2003:63; fn.13):

(118) <u>Finì</u> di piovere.
       finished to rain
       'It finished raining.'

6.2   German (Wurmbrand 2001)

Wurmbrand (2001) argues that German control and raising verbs occupy two different positions in a clause. While German raising verbs occupy the position where auxiliary verbs are found (the head of AuxP), German control verbs are in the head position of VP (Wurmbrand 2001:206). Under this analysis, verbs that are ambiguous between control and raising, such as the aspectual verb *beginnen* 'begin', can appear in either of these two positions, while unambiguous control and raising verbs are restricted to occuring as heads of VP and AuxP, respectively:

(119)
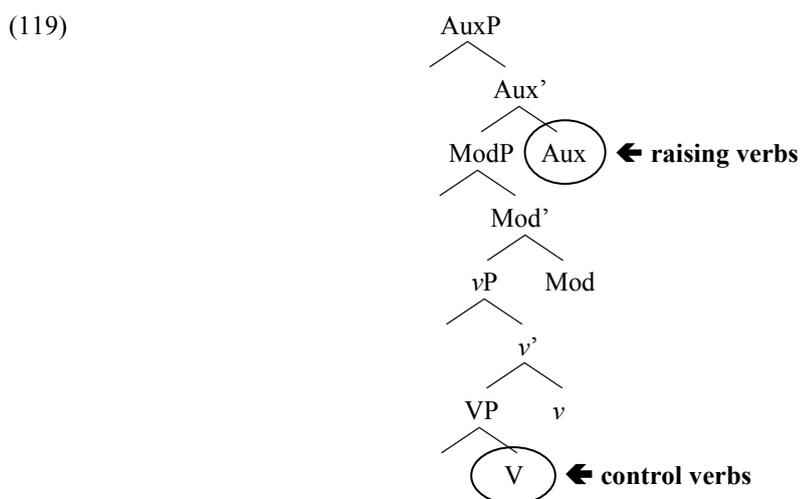
In order to argue for this analysis, Wurmbrand contrasts the distribution of unambiguous raising verbs (*scheinen* 'seem' and *pflegen* 'be used to') with the distribution of ambiguous verbs (*versprechen* 'promise', *drohen* 'threaten' and *beginnen* 'begin'). The unambiguous raising verbs cannot be embedded under a modal (120a), although they can embed a modal.[21] They can have embedded passive (120b), but they themselves cannot passivize (120c).

(120) a. *Morgen **wird/dürfte** er die Stadt zu verlassen <u>scheinen.</u>
         tomorrow will/might he the town to leave   seem
         'He might seem to be leaving the town tomorrow.

                                        (Wurmbrand 2001:207; (exx.168a & 168c))

      b. Der Kaviar <u>schien</u>   gegessen worden   zu sein.
          the caviar seemed   eaten   been   to be
          'The caviar seemed to have been eaten.'

This observation is problematic for Cinque's analysis, since these modifiers only change the bare DP's informational status, and do not make the VP telic.

[21] According to Wurmbrand, only deontic modals can be embedded under *scheinen* 'seem'.

(Wurmbrand 2001:208; (ex.170c))

    c. *Der   Kaviar   wurde   zu   essen   <u>gescheint/geschienen.</u>
       the   caviar   was   to   eat   seemed$_a$/seemed$_b$
       'It seemed that somebody ate the caviar.'

(Wurmbrand 2001:208; (ex.170a))

In contrast, ambiguous verbs can be embedded under a modal (121a), and in this environment, they only have a control reading (i.e., the epistemic interpretations of 'promise' and 'threaten' are not available) and they cannot have embedded passive (121b). However, ambiguous verbs themselves can passivize (121c).

(121) a.   Er **muβ** ein guter Vater zu werden <u>versprechen/drohen.</u>
          he must a   good father to   become promise/threaten
          'He must promise/threaten to become a good father.'

(Wurmbrand 2001:209; (exx. 172c & 172d))

      b. *Die   Stadt **muss/kann** zerstört   zu   werden   <u>versprechen/drohen.</u>
         the   town must/can   destroyed to   be   promise/threaten
         'The town must/can promise/threaten to get destroyed.'

(Wurmbrand 2001:211; (exx.176a &176b))

      c. weil (ihm) <u>versprochen/gedroht</u> wurde den Turm   abzureiβen
         since (him) promised/threatened was   the tower   to-tear-down
         'since somebody promised/threatened (him) to tear down the tower'

(Wurmbrand 2001:212; (ex.178a))

Here, it is important to note that *beginnen* 'begin' is different from two other ambiguous verbs, as it is the only ambiguous verb that allows for long passive:

(122)   Der Wagen   wurde   zu   reparieren   <u>begonnen.</u>
        the   car   was   to   repair   begun
        'They began to repair the car.' (*long passive*)

(Wurmbrand 2001:213; (ex.180a))

    The fact that unambiguous raising verbs cannot be embedded under a modal (120a) suggests that they occupy a position that is higher than the position for (deontic) modals. The fact that they can have embedded passive (120b) but they themselves cannot passivize (120c) suggests that their position is higher than the position of the passive morpheme, presumably *v*. In contrast, the fact that ambiguous verbs cannot have embedded passive when embedded under a modal and with only a control reading (121b) suggests that there is no *v* below the position for a control verb. Together, these data suggest that raising verbs occupy a position that is higher than both *v* and (deontic) modals (i.e. AUX), while control verbs occupy a position that is lower than modals and *v* (i.e. V). According to Wurmbrand, only *beginnen* 'begin' allows for long passive among ambiguous verbs because its complement can be as small as VP, while the complement of *versprechen* 'promise' and *drohen* 'threaten' must be at least *v*P. When the complement of *beginnen* 'begin' is VP, there is no embedded *v*. Thus, the passivization of *beginnen* 'begin' forces A-movement of the internal argument to the matrix [Spec, TP], deriving long passive. In contrast, long passive is ungrammatical with *versprechen* 'promise' and *drohen* 'threaten' because the embedded internal argument would be case-licensed in the complement, since the complement is *v*P. In this case, there is no reason for the internal argument to move to the matrix [Spec, TP].[22]
    The aspect phrase analysis offers an alternative account of *beginnen* 'begin' that is minimally different from Wurmbrand's analysis. Instead of V and AUX, *beginnen* 'begin' occupies L-Asp and H-Asp. When *beginnen* 'begin' is L-Asp, it is embedded under *v*P. Therefore, it can be embedded under a modal and allows for long passive. In contrast, when *beginnen* 'begin' is H-Asp, it can have a passive complement since it is above *v*P. Analyzing H-Asp as being higher than

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[22] Under this analysis, it is not clear why *versprechen* 'promise' and *drohen* 'threaten' cannot have embedded passive when they are control verbs, since their complement is *v*P. A possible alternative is to analyze *versprechen* 'promise' and *drohen* 'threaten' as *v* selecting a VP complement.

the position for modals (or analyzing H-Asp and modals as sharing the same syntactic position in German) would account for the observation that *beginnen* 'begin' cannot have a passive complement when it is embedded under a modal. In other words, when *beginnen* 'begin' is embedded under a modal, it has to be in L-Asp. Thus, the aspect phrase analysis can also account for the distribution of *beginnen* 'begin' in German.[23]

There are a couple of differences between German aspectual verbs and Japanese and Romance aspectual verbs. First, apparently the only German aspectual verb that can appear as L-Asp is *beginnen* 'begin', as *beginnen* 'begin' is the only aspectual verb that allows for long passive (Wurmbrand 2001:96–7). Second, German does not have a completive aspect verb. Completive aspect is expressed with verbal prefixes, such as *be-* (123a), *ver-* (123b) and *er-* (123c):

(123) a. *be-* *greifen* 'seize, hold, grasp' **be***greifen* 'comprehend, understand'
            halten 'hold' **be***halten* 'retain, keep'

       b. *ver-* *kommen* 'come' **ver***kommen* 'decay, fall into ruin'
            urteilen 'judge' **ver***urteilen* 'condemn'

       c. *er-* *arbeiten* 'work' **er***arbeiten* 'acquire through work'
            raten 'advise, take a guess' **er***raten* 'solve, guess correctly'[24]

While investigating why completive aspect is marked with prefixes in German is clearly outside of the scope of this study, I would like to point out that the fact that completive aspect markers are prefixes in German is neither incompatible with nor surprising under the current analysis of aspectual verbs. If aspect markers are to be lexicalized with verbs, we would expect the aspect markers that always occur in L-Asp to be the ones that undergo such a lexicalization process, given the analysis that L-Asp is immediately adjacent to VP.

6.3   Basque (Arregi and Molina-Azaola 2004)

Arregi and Molina-Azaola (A&M) (2004) analyze two aspectual verbs in Basque: *hasi* 'begin' and *amaitu* 'finish'. These aspectual verbs have been analyzed as restructuring verbs, since the matrix auxiliary can agree with embedded arguments (i.e. long distance agreement). However, they do not show identical agreement patterns. As (124a) below shows, *amaitu* 'finish' allows the matrix auxiliary to agree with both the embedded dative *and* absolutive arguments. In contrast, *hasi* 'begin' allows the matrix auxiliary to agree with the embedded dative argument but not with the embedded absolutive argument, as shown in (124b) and (124c) below.

(124) a. Berak [zuri babak egiten] <u>amaitu</u> dautsuz.
           he-ERG [you-DAT beans-ABS do-NF] finished $AGR_A AGR_D AGR_E$
                                                            3PL 2SG 3SG

           'He finished cooking the beans for you.'

                                                            (A&M 2004;101; (ex.1))

       b. Bera [zuri babak egiten] <u>hasi</u> jatzu.
           he-ABS [you-DAT beans-ABS do-NF] began $AGR_A AGR_D$
                                                        3SG 2SG

           'He began cooking the beans for you.'

                                                            (A&M 2004;101; (ex.2))

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[23] In fact, Wurmbrand herself suggests the possibility that *beginnen* 'begin' is a functional head (i.e. aspectual head), although she does not pursue this possibility (Wurmbrand 2001: 214, fn.76). However, an anonymous reviewer points out that an aspect head analysis does not provide a complete account for the syntactic distribution of *beginnen* 'begin', as there are several pieces of evidence that *beginnen* 'begin' behaves as lexical verb. For instance, Wurmbrand (2001) shows that *beginnen* 'begin' allows for extraposition and selects for a CP complement, while functional heads are assumed to do neither.

[24] I would like to thank James Kirby for providing me with these German examples.
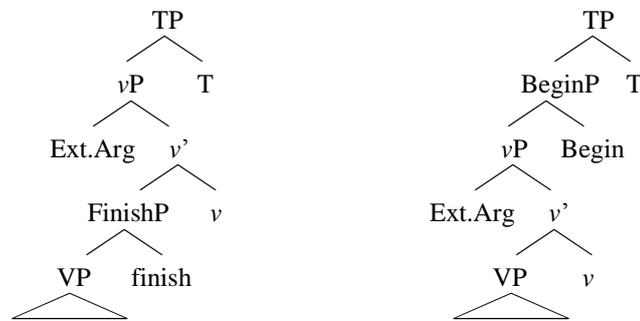
c. *Bera   [zuri   babak   egiten]   <u>hasi</u>   jatzuz.
   he-ABS   [you-DAT   beans-ABS   do-NF]   began   AGR_A AGR_D

'He began cooking the beans for you.'

(A&M 2004;102; (ex.3))

Another difference between these two aspectual verbs is the case on the matrix subject. As can be seen above, *amaitu* 'finish' has an ergative subject, while *hasi* 'begin' has an absolutive subject. Descriptively, therefore, it appears that the matrix auxiliary cannot agree with an embedded argument with a particular case if it has already formed an agreement relation with a matrix argument of the same case. In (124c), the matrix auxiliary cannot agree with the embedded absolutive argument, since it is already in an agreement relation with the matrix absolutive subject. In order to account for the different agreement patterns of the two aspectual verbs while associating them with the different case marking on the matrix subjects, A&M propose that these two aspectual verbs are functional heads that occupy two different positions in a clause. While *amaitu* 'finish' occupies the position immediately below *v*P (125a), *hasi* 'begin' occupies the position immediately above *v*P (125b) (A&M 2004:109; (exx.17 & 18)):

(125)   a.   *amaitu* 'finish'   b.   *hasi* 'begin'

```
              TP                                    TP
             /  \                                  /  \
           vP    T                             BeginP   T
          /  \                                  /  \
     Ext.Arg   v'                             vP    Begin
              /  \                            /  \
         FinishP   v                     Ext.Arg   v'
            /  \                                  /  \
          VP   finish                           VP    v
```

A&M assume that while ergative case is assigned by T (as is assumed for nominative case in nominative-accusative systems), absolutive case is assigned either by *v* or by the aspectual verbs. They also assume that dative case is assigned by an applicative head.

   Based on these two underlying structures in (125), A&M account for the two different agreement patterns exhibited by the two aspectual verbs as follows. Based on the theory of agreement proposed in Bhatt (2003), they argue that agreement obeys locality that is relativized to case. Thus, an agreement morpheme α can agree with a DP β with the appropriate case value as long as there is no DP such that it has the same case value as β, and is closer to α than β. Under this analysis, although both *amaitu* 'finish' and *v* can provide absolutive case to the direct object in (125a), the direct object is case-licensed by *amaitu* 'finish' since *amaitu* 'finish' is closer to the direct object than *v*. With the external argument case-licensed by T and the embedded indirect object case-licensed by an applicative head, the three arguments, the subject, indirect object, and direct object, have three difference cases, ergative, dative, and absolutive, respectively:

(126)   [[_{vP} Berak [_{finP} [zuri   babak   Appl   egiten]   <u>amaitu]</u>   v]T
        [[he-ERG   [[you-DAT   beans-ABS   APPL   do-NF]   finish]   v]T

ABS   ERG   DAT

In (126), the agreement morphology in the matrix T can agree with all three arguments because there are no two arguments that bear the same case. In other words, locality is not an issue in (126). In (124b), however, the case assignment of the three arguments is different, and locality is an issue. First, since *hasi* 'begin' dominates *v*P, the subject is case-licensed by *hasi* 'begin'. This accounts for the absolutive case on the subject. The indirect argument is case-licensed by the applicative head, as was the case in (126), and *v* is available to case-license the direct object with absolutive case. This results in the subject, indirect object, and direct object having absolutive case, dative case, and another absolutive case, as in (127) below.

(127)

$[_{begP}$ $[_{vP}$ Bera   [zuri   babak   Appl egiten] $v]$ hasi] T
[[he-ABS   [you-DAT   beans-ABS   APPL do-NF] $v]$ began] T

(with agreement arrows marked ABS, ABS, DAT)

Under the relativized locality of agreement, the agreement morphology in the matrix T may agree with the absolutive case on the subject and the dative case on the indirect argument, yet it cannot agree with the absolutive case on the direct object. Since the matrix subject bears the same case, agreement with the absolutive case on the direct object in the presence of the subject with absolutive case constitutes a minimality violation, as illustrated in (128) below.

(128)

TP
BeginP   T [AGR$_A$, AGR$_D$]
vP   begin
INTERVENER   (Subj$_{ABS}$)   v'
VP   v
IO$_{DAT}$ DO$_{ABS}$

Similarities between A&M's analysis of Basque aspectual verbs and the proposed analysis of Japanese aspectual verbs should be immediately clear. According to A&M, there are two positions for aspectual verbs in Basque, and they are immediately below and above *v*P. A completive aspect verb, *amaitu* 'finish', occupies the position below *v* and an inceptive aspect verb, *hasi* 'begin', occupies the position above *v*P. Importantly, their conclusions are reached based on a very different set of data concerning a very different mechanism of grammar than what we have examined, namely, agreement.

7 Conclusion

In this paper, I proposed a novel analysis of Japanese aspectual verbs in which they are heads of *Aspect Phrases* that select for syntactic realizations of different event types. I argued that the proposed analysis, together with the proposed distribution of individual Japanese aspectual verbs between the two head positions, accounts for a set of behaviors of Japanese aspectual verbs that is representative of the characteristic behaviors exhibited by aspectual verbs across languages. I also showed that the proposed analysis makes the right predictions regarding correlations between the syntactic distribution of the four Japanese aspectual verbs and the event types of their verbal complements. Furthermore, data from previous studies that analyzed aspectual verbs in other languages were presented in order to show that they are not only consistent with the basic assumptions of the proposed analysis, but that they also provide cross-linguistic support for it.

As such, the proposed analysis challenges the common assumption that aspectual verbs are main verbs taking clausal complements. Moreover, it suggests the possibility that the similar behaviors exhibited by aspectual verbs across languages may have a common structural explanation. Finally, the proposed analysis provides additional support for the hypothesis that aspectual information about events is directly mapped onto syntactic structures (Travis 1991, 2000, 2005; Borer 1994, 1998, 2005; McClure 1995; Ramchand 1997, 2008; Ritter and Rosen 1998; van Hout 2000; Svenonius 2002; Nelson 2003; McIntyre 2004; Thompson 2005; McDonald 2006, 2008; among others). In particular, the proposed analysis supports the original hypotheses proposed by Travis (1991) and Borer (1994, 1998) that there are functional heads that encode aspectual distinctions among different events that closely interact with the underlying structure of simple sentences.

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Shin Fukuda
University of Hawaiʻi at Manoa
Department of East Asian Languages and Literatures
Mailing Address: 1890 East West Road, Moore Hall 382
                    Honolulu, HI 96822
E-mail: fukudash@hawaii.edu