

# Two Syntactic Positions for English Aspectual Verbs

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## 1. Problem: English aspectual verbs as control and raising verbs?

### 1.1. *The control/raising analysis of English aspectual verbs*

Since Perlmutter (1968, 1970), the standard assumption has been that English aspectual verbs are ambiguous between control and raising predicates.<sup>1</sup> The arguments for the raising analysis come from the fact that English aspectual verbs can have non-thematic subjects. They allow for expletive subjects (1a-b), exhibit active/passive synonymy (2), and permit idiom chunks to maintain their idiomatic meanings (3).

- (1) a. There began to be commotion. (Perlmutter 1970: 108, (6))  
b. It began to rain. (Perlmutter 1970: 109, (7))
- (2) a. The noise began to annoy Joe.  
b. Joe began to be annoyed by the noise. (Perlmutter 1970: 109, (9))
- (3) a. Heed began to be paid to urban problems. (Perlmutter 1970: 110, (12))  
b. Headway began to be made toward a solution. (Perlmutter 1970: 110, (13))

The arguments for the control analysis come from the fact that there seem to be cases where the subjects of aspectual verbs must be thematic. First, aspectual verbs can be embedded under a subject or object control verb (4a and 4b). Second, aspectual verbs are compatible with the imperative (5).

- (4) a. I tried to begin to work. (Perlmutter 1970: 111, (20))  
b. I forced Tom to begin work. (Perlmutter 1970: 112, (23))
- (5) Begin to work. (Perlmutter 1970: 113, (25))

In the transformational grammar framework, (4) was taken to show that aspectual verbs select an animate subject in order for ‘Equi-NP deletion’ to take place. Likewise, (5) suggests that aspectual verbs can select a second person subject (5). Ross (1972) provides further support for the control/raising analysis of English aspectual verbs, arguing that only control verbs allow for what he calls Anaphoric Complement Deletion (ACD) (6):

- (6) a. Max suggested writing to Santa Clause, and  
Teddy agreed/began/approved ~~to write him~~. (Ross 1972: 576, (8))  
b. \*It’s supposed to be muggy tonight, but it hasn’t begun yet ~~to be muggy~~.  
(Ross 1972: 576, (9a))

Using ACD as a diagnostic, ‘cease’ can only be a raising verb, unlike ‘stop’.

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<sup>1</sup> In the terminology used in Perlmutter (1968, 1970), a raising verb is an intransitive verb that takes a clausal complement and a control verb is a transitive verb which requires identity between its own subject and the subject of the complement, triggering Equi(valent)-NP deletion.

(7) I suggested that they not shriek anymore, so they stopped/\*ceased. (Ross 1972: 576, (11a))

Ross also claims that ‘finish’ can only be a control verb, since it is incompatible with the weather *it* (8). In contrast, ‘stop’ can be either a control or a raising verb, given (7) and (8):

(8) It stopped/\*finished being muggy. (Ross 1972: 576, (10a))

### 1.2. Problems for the control/raising analysis

Although the arguments for the raising analysis of English aspectual verbs remain virtually unchallenged, the arguments for the control analysis have been challenged by a number of subsequent studies (Fischer and Marshal 1969, Givón 1973, Newmeyer 1975, Freed 1979, Brinton 1988, Rochette 1999). First, Newmeyer and Brinton argue that aspectual verbs are transparent with respect to selectional restrictions, even when they are embedded under a control verb, as in (4). Their argument is based on examples such as (9) (Newmeyer 1975: 33-34, Brinton 1988: 65).

- (9)
- a. John asked him to listen/#hear.
  - b. John began to listen/hear.
  - c. John asked him to begin.
  - d. John asked him to begin to listen/#hear.

(9a) shows that ‘hear’ cannot be embedded under ‘ask’ while ‘listen’ can. (9b) shows that ‘begin’ does not impose such selectional restrictions and (9c) shows that ‘begin’ can also be embedded under ‘ask’. Assuming that selectional restrictions are local, one would expect that ‘begin to hear’ should embed under ‘ask’, given (9b) and (9c). Instead, (9d) shows that the selectional restriction conflict between ‘ask’ and ‘hear’ in (9a) still has its effects in (9d). Thus, Newmeyer and Brinton argue that aspectual verbs are transparent with respect to selectional restrictions and cannot be control verbs. As for the arguments presented in Ross (1970), ACD does not seem to be a syntactic process, since it does not require syntactic identity between the deleted element and its antecedent (i.e. 6a). The claim that ‘finish’ is incompatible with the weather *it* (8) is not supported by empirical evidence, as examples of ‘finish’ with the weather *it* such as (10) are not difficult to find.

- (10)
- a. The best part is that when it’s finished raining, all the plants and trees have suddenly...<sup>2</sup>
  - b. After it finished raining we went down to Divi Village’s new pool.<sup>3</sup>

These counterarguments leave the imperative evidence in (5) as the only valid argument for the control analysis of aspectual verbs.<sup>4,5</sup>

<sup>2</sup> <http://andrasue.blogspot.com/>

<sup>3</sup> <http://tripreports.visitaruba.com/>

<sup>4</sup> Another argument that Perlmutter presents is the distribution of *do so* anaphora. Perlmutter claims that a *do so* anaphor can replace an aspectual verb when it is a control verb (ia) but cannot when it is a raising verb (ib).

- (i)
- a. Warren tried to begin to work and Jerry tried to do so too.
  - b. \*Oil began to gush from the well and water did so too.

However, Newmeyer argues that the unacceptability of (ib) has to do with the definiteness of the arguments, given that (ii) is acceptable (Newmeyer 1975: 31, fn. 7).

- (ii) **The** oil stopped gushing from the well and **the** water did so too.

<sup>5</sup> Perlmutter (1970) also points out that aspectual verbs take an NP complement, unlike typical raising verbs. However, I focus only on cases with clausal complements in this paper. For recent discussion of aspectual verbs with NP complements, see Thompson (2005) and Pylkkänen and McElree (2006).

On the other hand, assuming that aspectual verbs are pure raising verbs raises additional problems. First, this leaves the imperative evidence in (5) unaccounted for. Second, under a raising analysis, sentences with English aspectual verbs must be bi-clausal, following the standard assumption that the complement of a raising verb is a TP. However, evidence discussed in the literature suggests that complements of English aspectual verbs are smaller than a TP. English infinitives have been analyzed as consisting of their own tense, based on the fact that infinitives can have a time adverbial that is in conflict with another time adverbial modifying the matrix event, as shown in (11a-b) (Bresnan 1972, Stowell 1982, Pesetsky 1991, Bošković 1997, Landau 2000, Martin 2001).

- (11) a. Yesterday, John decided to leave tomorrow.  
b. Today, John hopes to win someday.

Since the infinitival complement in these cases denotes a yet-to-be-realized event, the tense specification of such complements has been called the ‘unrealized future tense’. Aspectual verbs, however, are known to disallow the ‘unrealized future’ interpretation.

- (12) a. ??Yesterday, John began to leave tomorrow.  
b. ??Today, the law ceased to have its effect tomorrow.

Nonetheless, lack of an independent time specification in the infinitive complements of aspectual verbs does not necessarily mean that these complements lack tense. For instance, Landau (2000) claims that the tense of infinitive complements that cannot have their own time specification is anaphoric with the matrix tense. Nevertheless, there is evidence that the complements of aspectual verbs lack projections of grammatical aspect, which has been argued to be lower than TP. Akmajian, Steele, and Wasow (1979) show that the complements of aspectual verbs cannot encode grammatical aspect, neither progressive nor perfective (13). This is in contrast with other verbs that also take nonfinite complements but allow for both (14).

- (13) a. \*He began [<sub>Progressive</sub> being running down the road].  
b. \*He began [<sub>Perfective</sub> to have finished his homework]. (Akmajian et al. 1979: 40, (112))  
(14) a. We’ll try to make him [<sub>Progressive</sub> be singing “Coming through the Rye”] when...  
(Akmajian et al. 1979: 40, (115a))  
b. I will try [<sub>Perfective</sub> to have finished the work] by the time...  
(Akmajian et al. 1979: 43, (125))

Given the hierarchical order of tense and the grammatical aspect markers such as ‘be’ and ‘have’ in English, (13) requires one of the following two options to be true: (i) the complements of aspectual verbs lack the tense projection and grammatical aspect projection altogether; or (ii) they do have the tense projection (anaphoric with the matrix tense) but lack the grammatical aspect projection. Due to lack of independent support for (ii), I assume (13) shows that complements of aspectual verbs do not contain a tense projection or grammatical aspect projection.<sup>6</sup> Thus, English aspectual verbs cannot be raising verbs, given the standard assumption that sentences with raising predicates are bi-clausal.

In sum, the control/raising analysis of English aspectual verbs appears untenable given the evidence that aspectual verbs fail to behave as control or raising verbs. An analysis of English aspectual verbs, therefore, must account for the fact that they are non-thematic without assuming that they are raising verbs. At the same time, it must also account for the fact that English aspectual verbs are compatible with the imperative without assuming that they are control verbs.

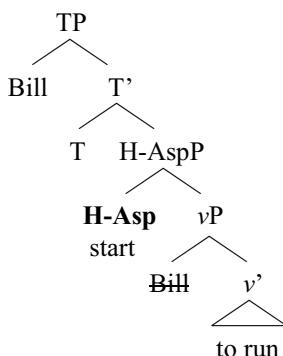
## 2. Proposal: A functional head analysis of English aspectual verbs

In order to account for the problematic behavior of English aspectual verbs, I propose that they are functional heads which appear above and below a projection of the Voice head or little *v* (Kratzer 1994,

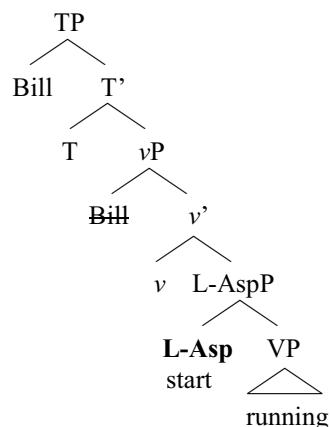
<sup>6</sup> See also Wurmbrand (2006, 2007) for arguments that English infinitives do not have tense even when they have the ‘unrealized future’ reading.

1996, Chomsky 1995, among many others). I call their projection *Aspect Phrase (AspP)*, following Travis (1991). Moreover, the projection of aspect above *vP* is called *H(igh)-Asp(ect)* and the one that is below *vP* is called *L(ow)-Asp(ect)*. Finally, I argue that the proposal is supported by independent morphological and syntactic evidence: the complement of H-Asp (*vP*) is realized as an *infinitival complement* (15a) and the complement of L-Asp (VP) is realized as a *gerundive complement* (15b).

(15) a. Bill started to run.



b. Bill started running.



The proposed analysis is different from the control/raising analysis of aspectual verbs in several important ways. First, the control/raising analysis assumes a bi-clausal structure whereas sentences with aspectual verbs are mono-clausal in the proposed analysis. Second, the control/raising analysis assumes that aspectual verbs assign a theta role to their subjects when they are control verbs; in the proposed analysis aspectual verbs are functional heads and never bear theta roles. Third, the control/raising analysis has very little to say about the two different complement types, infinitive and gerundive; the difference in selection of two complement types is a consequence of the two possible positions for aspectual verbs in the proposed analysis. Crucially, aspectual verbs which take either type of clausal complement (e.g. 'begin', 'start', 'continue', or 'cease') can appear either as H-Asp or L-Asp, whereas aspectual verbs that take only a gerundive complement (e.g. 'keep', 'stop', or 'finish') can only be L-Asp. In the remainder of this paper, I first motivate the proposed functional head analysis for English aspectual verbs with both language-specific and cross-linguistic arguments. Then, I propose an analysis of the imperative facts based on the proposed analysis.

### 3. Arguments for the functional head analysis

#### 3.1. Infinitives are larger than gerundives

Analyzing infinitives and gerundives under English aspectual verbs as *vPs* and *VPs* accounts for both (i) the lack of evidence for a tense projection (12) and (ii) the evidence for the lack of the grammatical aspect projection (13) in the complements of aspectual verbs. If infinitives and gerundives under aspectual verbs are *vPs* and *VPs*, respectively, neither tense nor grammatical aspect can be present in these complements.

There is also evidence that infinitives under aspectual verbs are structurally larger than gerundives in the same environment. The evidence comes from the interpretation of certain adverbs. English has adverbs such as 'stupidly' that can be ambiguous between a speaker-oriented reading, which is generally associated with a relatively high syntactic position, and a manner reading, which is generally associated with a relatively low syntactic position. Interestingly, when such an ambiguous adverb occurs within the clausal complement of an aspectual verb, its possible interpretations differ according to the nature of the complement. Four native speakers that I consulted interpreted 'stupidly' as either a speaker-oriented adverb only or as ambiguous between the two possible readings when it immediately preceded an infinitive (16a), whereas the same adverb was only interpreted as a manner adverb when it immediately preceded a gerundive (16b).

- (16) a. ...found everyone around me grew quiet as I began *stupidly* to say what I really think.<sup>7</sup>  
 b. ...found everyone around me grew quiet as I began *stupidly* saying what I really think.

According to the proposed analysis, ‘stupidly’ is attached to a VP when it precedes a gerundive. Thus, the adverb can only be interpreted as a manner adverb, which is generally associated with VPs. On the other hand, when ‘stupidly’ precedes an infinitive, it is interpreted as either a manner or speaker-oriented adverb. The manner reading of ‘stupidly’ with the infinitive is expected, since a *vP* embeds a VP. The fact that the speaker-oriented reading is also available with an infinitive strongly suggests that infinitives are structurally larger than gerundives. Although speaker-oriented adverbs are generally associated with the CP domain (Alexiadou 1997, Cinque 1999), the evidence presented earlier (12 and 13) strongly suggests that infinitives under aspectual verbs are unlikely to be even TPs, much less CPs. Given the grammaticality of (16a), therefore, I assume that a *vP* can host a speaker-oriented adverb.

Further support for the claim that infinitives under aspectual verbs are larger than gerundives in the same environment comes from differences in their selectional restrictions (Bolinger 1968, Freed 1979, and Brinton 1988). The examples in (17) below show that gerundives under aspectual verbs force a single event interpretation of the embedded verb, making these sentences very awkward. In contrast, infinitives in the same environment do not impose such an interpretation and allow for a reading in which the same event is repeated multiple times.

- (17) a. That never ceases to amaze/??amazing me.  
 b. That student continued to fall asleep/??falling asleep in my class.

A sharper contrast can be seen with embedded statives. Gerundives under aspectual verbs simply cannot have a stative verb, unlike infinitives.

- (18) a. The problem ceased to exist/\*existing.  
 b. Nora began to know/\*knowing right from wrong.

Thus, the evidence suggests that infinitives under aspectual verbs are larger than gerundives in the same environment. Specifically, infinitives are *vPs*, while gerundives are VPs.

### 3.2. *Quantifier scope*

The second argument for the proposed analysis is the ambiguity resulting from the interaction between a quantifier in subject position and aspectual verbs. May (1985) points out that raising predicates interact with a quantifier in subject position and create ambiguity. In (19) below, a quantifier ‘someone’ is ambiguous between a specific reading (19a) and an existential reading (19b).

- (19) Someone from NY is likely to win the lottery.  
 a. There is a person from NY who is likely to win the lottery. (specific)  
 b. It is likely that a person from NY will win the lottery. (existential)

Under the raising analysis, the quantifier in subject position, ‘someone’, is base-generated as the embedded subject and undergoes NP movement to become the matrix subject. The existential interpretation of ‘someone’ obtains because ‘someone’ is under the scope of ‘be likely’ in its base-generated position, and the specific interpretation of ‘someone’ obtains because ‘someone’ ends up taking scope over ‘be likely’ after moving to the matrix subject position.

The proposed analysis predicts that a similar ambiguity should obtain with an aspectual verb in H-Asp, since the subject is under the scope of H-Asp in its base-generated position (Spec of *vP*), but it ends up taking scope over H-Asp once it moves to Spec of TP. On the other hand, such an ambiguity is not expected with L-Asp, which is lower than *vP*. This prediction is borne out. According to four native speakers consulted, ‘someone’ is ambiguous between the existential and specific reading with

<sup>7</sup> <http://www.bat-girl.com/archives/000528.php>

an infinitive complement under an aspectual verb in H-Asp (20a), whereas no ambiguity is found with a gerundive complement under an aspectual verb in L-Asp (20b).<sup>8</sup>

- (20) a. Someone from NY started to win the lottery. (infinitive = H-Asp)  
 i) someone > start (specific)                      ii) start > someone (existential)
- b. Someone from NY started winning the lottery. (gerundive = L-Asp)  
 i) someone > start (specific)                      ii) ??start > someone (existential)

### 3.3. Aspectual verbs in other languages and ‘long passive’

Further support for the proposed analysis of English aspectual verbs is provided by studies of aspectual verbs in other languages. A functional head analysis for aspectual verbs has already been proposed for aspectual verbs in German (Wurmbrand 2001), Romance languages (Cinque 2003), Basque (Arregi and Molina-Azaola 2004), and Japanese (Fukuda 2006). The main argument for the functional head analysis of aspectual verbs in these languages is the fact that some aspectual verbs in these languages allow for *long passive*, i.e. passivization of an embedded object with the passive morpheme appearing only on the matrix predicate (except for Basque<sup>9</sup>). For instance, in Japanese, the aspectual verb *owar* ‘finish<sub>1</sub>’ only allows an embedded passive (21a); another aspectual verb, *oe* ‘finish<sub>2</sub>’, only allows *long passive* (21b), while two other aspectual verbs, *hajime* ‘begin’ and *tsuzuke* ‘continue’, allow both options (22) (Shibatani 1973, Nishigauchi 1993, Matsumoto 1996):<sup>10</sup>

- (21) a. Rombun-ga [t<sub>i</sub>        kak        **-are**]    **-owar**    (\*-are)    -ta  
 paper-NOM [t<sub>i</sub>        write    -PASS]    -finish<sub>1</sub>    (\*-PASS) -PERF  
 ‘That paper finished being written.’ (embedded passive only)
- b. Rombun<sub>i</sub>-ga [t<sub>i</sub>        kaki        (\*-are) **oe**]    **-rare**    -ta  
 paper<sub>i</sub>-NOM [t<sub>i</sub>        write    (\*-PASS) finish<sub>2</sub>]    -PASS    -PERF  
 ‘That paper finished being written.’ (long passive only)
- (22) a. Rombun-ga [t<sub>i</sub>        kak        **-are**]    **-hajime/tsuzuke**    -ta  
 paper-NOM [t<sub>i</sub>        write    -PASS]    -begin/continue    -PERF  
 ‘That paper began/continued to be written.’ (embedded passive)
- b. Rombun<sub>i</sub>-ga [t<sub>i</sub>        kaki        **hajime/tsuzuke**]    **-rare**    -ta  
 paper<sub>i</sub>-NOM [t<sub>i</sub>        write    begin/continue]    -PASS    -PERF  
 ‘That paper began/continued to be written.’ (long passive)

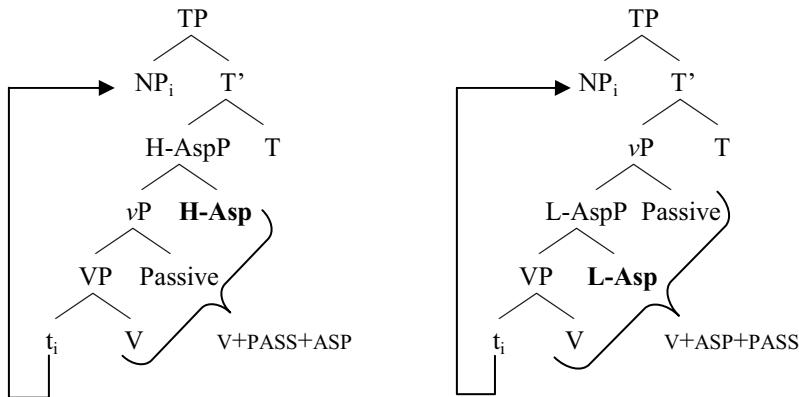
While previous analyses attempted to account for the pattern in (21) and (22) based on the assumption that Japanese aspectual verbs are either control or raising verbs that may involve restructuring or reduced complements (Nishigauchi 1993, Kageyama 1993, 1999, Matsumoto 1996, Koizume 1998), I proposed in Fukuda (2006) that these aspectual verbs are heads of functional projections which can appear in two different positions: L-Asp (below *vP*) and H-Asp (above *vP*). The regular embedded passive is the only option with an aspectual verb in H-Asp, since the passive morpheme must precede the aspectual verb, assuming that the passive morpheme occupies the *v* position (23a). In contrast, long passive is the only option with an aspectual verb in L-Asp, since the passive morpheme is above the position of the aspectual verb and must follow it (23b).

<sup>8</sup> The scenario given to the native speakers for (20) is the following. The state of NY established a lottery ten years ago. In the first few years, people from other states kept winning the lottery. Five years ago, someone from NY finally won the lottery, and since then, the lottery has always been won by someone from NY.

<sup>9</sup> For Basque, a functional head analysis of aspectual verbs is argued based on agreement facts. See Arregi and Molina-Azalola (2004) for the details of the argument.

<sup>10</sup> Abbreviations: NOM = nominative, ACC = accusative, PASS = passive, PERF = perfective.

- (23) a. H-Asp = only embedded passive    b. L-Asp = only long passive



Both Wurmbrand (2001) and Cinque (2003) independently proposed similar analyses for aspectual verbs in German and in Romance languages, respectively.<sup>11</sup>

If the proposed functional head analysis of English aspectual verbs is on the right track, the cross-linguistic data just discussed suggest that the long passive should also be grammatical with English aspectual verbs in L-Asp. In fact, one does not have to try too hard to find examples of apparent long passives in English:

- (24) a. When the pies and cakes were finished baking, it was about...<sup>12</sup>  
 b. Defendant waited until the sheets were finished washing and...<sup>13</sup>  
 c. The RV-9A was finished painting last Sunday.<sup>14</sup>

There are several peculiar restrictions, however, to the apparent cases of long passive in English. First, long passive is grammatical only with *finish*, and not with other L-Asp verbs (25). Second, the embedded clause must have a durative event with an ‘affected’ object, as in (26c).

- (25) These cakes were finished/\*continued/\*began/\*stopped baking.  
 (26) a. ??The plates were finished breaking. (non-durative event with an affected object)  
 b. ??These movies were finished watching. (durative event with a non-affected object)  
 c. These cakes were finished baking. (durative event with an affected object)

Although I will not discuss an analysis of the long passive in English due to limited space, the fact that an apparent long passive is indeed attested is not only consistent, but also expected under the proposed analysis.

#### 4. Imperative revisited

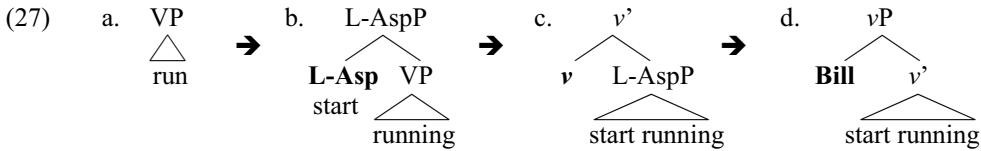
So far, I have presented both English-specific and cross-linguistic motivations for the functional head analysis of English aspectual verbs. There is an important question that has been left unanswered: if, as I have argued, aspectual verbs are functional heads with no theta role, how are they compatible with the imperative? I suggest that an explanation can be found in the two positions available to aspectual verbs. With L-Asp, an aspectual verb is first combined with VP, forming an aspect phrase (27b). This aspectual phrase is then combined with *v* (27c), which introduces the subject as its specifier (27d).

<sup>11</sup> An important difference between Wurmbrand (2001) and Cinque (2003) is that all ‘restructuring verbs’ (which include aspectual verbs that allow for long passive) are functional heads in Cinque, whereas Wurmbrand makes a distinction between functional and lexical restructuring verbs.

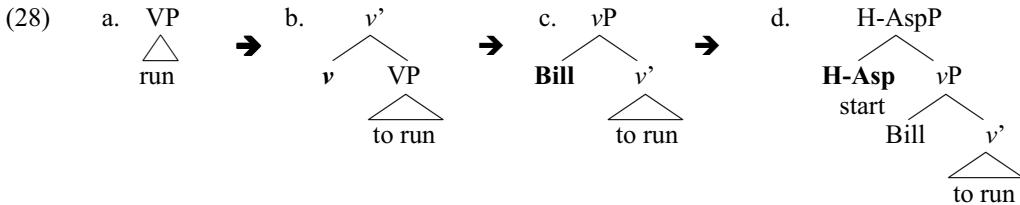
<sup>12</sup> <http://www.allairevillage.org>

<sup>13</sup> <http://www.sconet.state.oh.us>

<sup>14</sup> <http://www.avsim.com>



With H-Asp, on the other hand, a  $\nu'$  is first formed with  $\nu$  and its complement, VP (28b), and the subject is then merged to this structure,  $\nu\text{P}$  (28c), before an aspectual verb is introduced (28d).



Following Kratzer (1994, 1996), I assume that  $\nu$  (*Voice* in Kratzer) creates a predication relation between the external argument in Spec of  $\nu\text{P}$  and its complement. Thus, only with L-Asp is the subject predicated of the aspect phrase. In other words, ‘Bill’ is the subject of ‘started running’ in (27), but in (28) it is the subject only of ‘to run’. Thus, only L-Asp in (27) has the ‘thematic’ interpretation, which inspired the original control analysis of aspectual verbs.

Now, the imperative requires an appropriate external argument (e.g. agent). Given the assumption that  $\nu\text{P}$  is where the external argument is introduced, I propose that the imperative formation targets  $\nu\text{P}$ .<sup>15</sup> Under such an analysis, the current proposal predicts that only an aspectual verb in L-Asp with a gerundive complement should be compatible with the imperative, since L-Asp is part of  $\nu\text{P}$ . An aspectual verb in H-Asp with an infinitival complement is not expected to be felicitous with the imperative, since H-Asp is above  $\nu\text{P}$ . Elicitations with fifteen native speakers show that this is indeed the case. They were first given a situation which can be followed by an imperative sentence, such as (29), and asked to choose between an imperative sentence with a gerundive (29a) and with an infinitive (29b). 93% or fourteen chose the example with a gerundive as the more natural option.

- (29) Situation: after giving directions to a group of students who are about to write an in-class essay, the proctor says:  
 a. Begin writing!! (93.3% or 14/15)      b. Begin to write!! (6.7% or 1/15)

## 5. Conclusion

In this paper, I first argued that the control/raising analysis of English aspectual verbs is untenable, as it cannot account for the evidence that the complements of aspectual verbs do not appear to have a tense projection nor grammatical aspect projection. As an alternative, I proposed a functional head analysis of English aspectual verbs, according to which they project in two different positions in a clause: below  $\nu\text{P}$  (L-Asp) and above  $\nu\text{P}$  (H-Asp). Both English-specific and cross-linguistic arguments were presented to motivate the proposed analysis, and an analysis of the imperative facts based on the proposal was shown to make the right prediction about native speakers’ preference with the imperative form of aspectual verbs with respect to the two complement types, infinitive and gerundive. As such, the proposed analysis provides justification for adding English to the list of languages whose aspectual verbs appear in two syntactic positions, as well as further support for the hypothesis that aspectual verbs are functional heads.

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<sup>15</sup> Unless negation is involved (see Potsdam, in press, for a recent analysis of English negative imperatives).

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