An Existential Crisis: understanding the aspectual restrictions on English existential constructions

Abstract

The purpose of this article is to explain the aspectual restrictions on existential constructions in Standard English. Whilst the lexical verb in unaccusative existentials can occur in all inflectional forms, the lexical verb in transitive existentials is restricted only to the progressive and passive participial forms. I argue that these facts can be explained if one assumes the lexical verb in English remains in situ and receives its inflection through linear adjacency, and that associates can act as interveners for the purposes of verbal inflection. I claim that the pre-verbal associate in transitive existentials raises to the edge of the progressive aspectual layer and therefore does not intervene for the purposes of progressive and passive inflections, but does so for higher inflections. In unaccusative existential constructions the associate remains in post-verbal position and so does not intervene for any type of inflection. This analysis is shown to have potentially far reaching repercussions cross-linguistically. Finally, I explain the distribution of the English associate by claiming the associate is stranded on the edge of the clause internal phase, and appeal to the dynamic approach to phases to motivate the various positions the associate occupies.

Keywords: existential, linearization, aspect, phase, progressive, English

1. *Introduction*

Existential constructions are characterised by a semantically contentless expletive, *there*, occupying the canonical subject position, whilst the logical subject (the associate), occupies a lower position in the clause:

(1) *There was a wand up the magicians' sleeve*.[1]

Existential constructions exhibit many interesting properties, such as the definiteness effect, i.e., the requirement that the associate be indefinite (see Farkas 1996; Holmback 1984; Keenan 1987; Lumsden 1988; McNally 1997; Milsark 1974; Prince 1981; Wilkinson 1988; Woisetschlaeger 1983):

(2) * *There was the wand up the magicians' sleeve*.

There are also restrictions on predication, i.e., the post-nominal material cannot be a DP predicate despite the fact that DPs can act as predicates in

[1] Throughout this article I will generally indicate the associate with underline, and verbs/predicates in **bold**.

copular constructions (see Carlson 1977; Keenan 1987; McNally 1997; Milsark 1974):

(3) a. * *There was a woman* ***a contestant on the game show***.
b. *A woman was* ***a contestant on the game show***.

The restriction that this paper primarily concerns itself with however, is the aspectual restriction on certain English existentials (Emonds 1970; Deal 2009; Milsark 1974).[2]

The majority of languages that exhibit existential constructions are entirely productive in terms of their compatibility with all varieties of verbal inflection. In Dutch transitive existential constructions (TECs), for instance, the lexical verb can be inflected for finite, infinitival, perfect, progressive or passive morphology:[3]

(4) *Er* ***koopt*** *iemand een brood*. (Finite)
there **buys** someone a loaf.of.bread
'Someone is buying a loaf of bread.'

(5) *Er moet iemand een brood* ***kopen***. (Infinitive)
there must someone a loaf.of.bread **buy**
'Someone has to buy a loaf of bread.'

(6) *Er heeft iemand een brood* ***gekocht***. (Perfect)
there has someone a loaf.of.bread **bought**
'Someone has bought a loaf of bread.'

(7) *Er is iemand een brood* ***aan het kopen***. (Progressive)
there is someone a loaf.of.bread **on the buy**
'There is someone buying a loaf of bread.'

(8) *Er werd iemand* ***gearresteerd***. (Passive)
there became someone **arrested**
'There was someone arrested'

Standard English existential constructions however, are notable for being severely restricted with regards to which inflectional forms the lexical verb can take. In particular, English TECs can only occur with the progressive and

[2] I limit this article to existential *there* constructions and not presentational *there* sentences as discussed in Aissen (1975).
[3] I follow Haegeman (2001) in assuming that Dutch exhibits genuine TECs, contra Koeneman & Neeleman 2001.

passive participial forms of the lexical verb. Finite, infinitival and perfect inflectional forms are unacceptable:[4,5]

(9) a. * *There **buys** someone a book*.[6] (Finite)
b. * *There should someone **buy** a book*. (Infinitive)
c. * *There has someone **bought** a book*. (Perfect)
d. *There was someone **buying** a book*. (Progressive)
e. *There were several people **arrested***. (Passive)

I will term this the aspectual restrictions on English TECs. Note however, that only lexical verbs are subject to this restriction. Auxiliary verbs are free to receive all types of inflection:

(10) *There **may have been** many people **being** arrested*.

To further complicate matters, Standard English unaccusative existential constructions (UECs) are fully productive, similar to TECs in most other languages. That is, the lexical verb is unconstrained in terms of the inflectional forms it can take:[7]

(11) a. *There **arrived** several letters in the mail today*. (Finite)
b. *There will **arrive** several letters in the mail today*. (Infinitive)
c. *There have **arrived** several letters in the mail*. (Perfect)
d. *There are several letters **arriving** in the mail today*. (Progressive)

To summarise, in Standard English TECs, the lexical verb is restricted to its progressive and passive participial forms, despite the fact that auxiliary verbs can receive all types of inflectional affixes, whereas in English UECs, the lexical verb is free to receive all types of inflection. This can be summarised in the following table:

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[4] Unergative and ditransitive existentials in Standard English are also subject to the same restrictions. For simplicity's sake, I do not discuss these constructions here, although the analysis I eventually offer for TECs can be straightforwardly carried over to the unergative and ditransitive counterparts.

[5] Arguably an existential construction containing a passive participle is not a transitive existential at all, but an entirely independent passive existential. However, given the standard generative analysis that passives are in some way derived from transitives (Baker, Johnson & Roberts 1989; Chomsky 1975; Collins 2005), I assume passive existentials to share the same basic underlying structure as transitive existentials and to only be minimally different from them on the surface. For this reason, and for ease of exposition, I bundle passive existentials together with transitives.

[6] The variant in which the associate precedes the finite lexical verb is also, of course, ungrammatical:
(i) * *There someone **buys** a book*.

[7] Unaccusative existentials lack a passive form since there is no implied Agentive theta role.

Table 1: aspectual properties of English TECs and UECs

Lex. Verb Inflection	TEC	UEC
Finite	×	✓
Infinitival	×	✓
Perfect	×	✓
Progressive	✓	✓
Passive	✓	N/A

The aim of this paper is to explain these facts.[8] The analysis itself utilises the hybrid approach to verbal inflection (Baker 2003; Lasnik 1995) and considers what effect the surface position of the associate has on the process of affixation. In particular, it is claimed that verbs which do not raise overtly in the syntax, as with the English lexical verb, are instead merged with the relevant inflectional affix at PF linearization by virtue of the two elements being string adjacent. If the pre-verbal associate in English TECs occupies the edge of the progressive aspectual layer, as Harwood (2012, 2013a) claims, then it intervenes between the lexical verb and finite, infinitival and perfect morphology, thus preventing PF merger of such items, but the associate does not intervene for progressive and passive morphology. In UECs, on the other hand, the associate sits in post-verbal position, meaning that it does not intervene for any type of inflection, so the lexical verb in such instances can receive any inflectional form.

As a secondary goal, the paper also provides an account for the distribution of the associate across TECs and UECs. I adopt Chomsky's (2000, 2001) analysis that the pre-verbal associate in TECs is stranded on the clause internal phase edge, in combination with Harwood's (2012, 2013a) claim that the progressive aspectual layer constitutes the clause internal phase when the progressive projections are present. The post-verbal position of the associate in UECs is derived by claiming the clause internal phase in unaccusatives consists only of VP, and therefore that raising of the derived associate to the phase edge in this instance is banned due to anti-locality (Abels 2003; Boškovic In Press a,b; Grohmann 2000; Pesetsky & Torrego 2001).

Moving beyond Standard English, this analysis is also potentially able to capture the cross-linguistic distribution of TECs, which I argue to be principally conditioned by the parameter of whether V-to-T movement is allowed or not, though as will be seen with the Belfast English data (Henry & Cottell, 2007), the distribution of the associate also plays an important role.

The remainder of this paper is structured as follows: section 2 discusses and critically evaluates previous analyses made in the literature on the

[8] This article stays away from existentials involving to-infinitives, gerunds and lexical verbs which select for another clause, such as *seem*.

aspectual restrictions of English existentials and motivates the need for a novel analysis. Section 3 acts as a preliminary to the analysis, detailing the structure of the middle field in English, as well as the hybrid analysis to verbal inflection. In section 4 I present a novel analysis for the aspectual restrictions, and in section 5 I provide an account for the distribution of the associate across the various existential constructions of English. Section 6 then looks beyond Standard English with a view to capturing the cross-linguistic distribution of TECs. Finally, section 7 summarises and concludes.

2. *Previous Analyses*

There are currently two analyses in the generative literature for the aspectual restrictions on Standard English existential constructions: the reduced relative analysis (Jenkins 1972; Law 1999; McNally 1997; Williams 1984) and low merger of *there* (Bowers 2002; Deal 2009; Henry & Cottell 2007; Richards 2007b; Richards & Biberauer 2005). Section 2.1 discusses the former, whilst section 2.2 discusses the latter.

2.1. *The reduced relative analysis*

Jenkins (1972), Law (1999), McNally (1997) and Williams (1984) have claimed that in existentials, the verbal material to the right of the associate is embedded inside a reduced relative clause (RRC) which modifies the DP associate itself:

(12) There was [$_{DP}$ a rabbit [$_{RRC}$ **being pulled** from the magicians' hat]].

For reasons unclear (although see Bhatt (1999) and Kayne (1994) for suggested analyses, or alternatively, the standard whiz deletion analysis), the lexical verb in English RRCs is also restricted to passive and progressive participial forms:[9]

(13) a. * *The only bus [**arrives** on time] is the ghost bus*. (Finite)
b. * *The bus [soon **arrive**] will be the right bus*. (Infinitive)
c. * *The bus [just **arrived** at the bus stop] is the wrong bus*. (Perfect)
d. *The man [**waiting** at the bus stop] is my brother*. (Progressive)
e. *The man [**knocked** down by the bus] was my brother*. (Passive)

Therefore, if the verbal material following the associate in an English TEC indeed constitutes part of an RRC, this would explain the aspectual restrictions on these constructions:

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[9] This is if one only considers what Bhatt (1999) refers to as participial RRCs, and not to-infinitive RRCs (see below), which Bhatt (1999) argues to be structurally distinct.
(i) The bus [soon to arrive] will be the right bus.

(14) There was [$_{DP}$ a rabbit [$_{RRC}$ **hiding** in a magic hat]].
(15) There was [$_{DP}$ a rabbit [$_{RRC}$ **arrested** for a crime he didn't commit]].

Moreover, since all verbal material precedes the associate in unaccusative existentials, the verb cannot constitute part of an RRC modifying the associate DP and is therefore not subject to the same aspectual restrictions that RRCs are subject to.

(16) *There* ***arrived*** *several letters in the mail*.

Thus the lexical verb in UECs is free to receive all types of inflection. In principle this captures the aspectual restrictions on English existentials.

As elegant as this proposal might be, Aelbrecht & Harwood (2013), Caponigro & Schütze (2003), Chomsky (2001), Deal (2009), Harwood (2013a), Huddleston & Pullum (2002), Lasnik (1995), Milsark (1974) and Rezac (2006) have shown, with numerous different tests and diagnostics, that English TECs are ambiguous structures. That is, an RRC analysis is indeed available to these types of sentences, but they can also be derived from a mono-clausal analysis.[10] Therefore, the RRC analysis may be able to explain the aspectual restrictions on TECs when they are indeed derived from an RRC (although the aspectual restriction on RRCs is itself not entirely understood), but not when they are derived from a mono-clause. For this reason, we must look for an alternative account that is compatible with mono-clause-derived TECs.

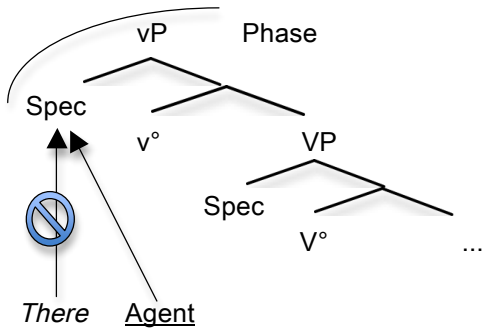
2.2. *Low merger of* there

Bowers (2002), Deal (2009), Henry & Cottell (2007), Richards (2007b) and Richards & Biberauer (2005) offer an explanation for the aspectual restriction that is compatible with the mono-clause analysis of English TECs. The authors claim that expletive *there* is not universally merged in Spec-TP as Chomsky (2000, 2001) assumes. Instead the authors argue that, for Standard English, *there* is merged on the edge of the clause internal phase, Spec-vP. This, however, is the same position in which the Agentive subject is merged in transitive constructions. Therefore the expletive and the Agent compete for the same position. In every case, the Agent wins, meaning there is no position

[10] To enter fully into the debate of whether English TECs can be derived from a mono-clause, or whether they only have an RRC analysis is beyond the scope of this paper. Instead I refer the interested reader to the literature cited above. For the purposes of this article, I side with those authors who claim that existentials can also be derived from mono-clauses, and for that reason offer an account of the aspectual restrictions on English TECs that is compatible with a mono-clause analysis.

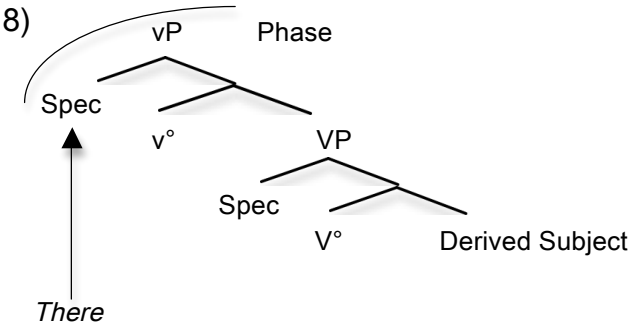
available in a transitive construction for the expletive to be merged into. This explains the general ban on TECs in Standard English:[11]

(17)



Since unaccusative existentials lack the Agentive subject, Spec-vP remains empty and is therefore a viable position for *there* to be merged into:

(18)



This explains the general admittance of UECs in English.

The same principle also applies to TECs in which the lexical verb has been passivised, in which case Spec-vP is once again empty and therefore available for merger of expletive *there*, explaining the existence of passivised TECs in English:

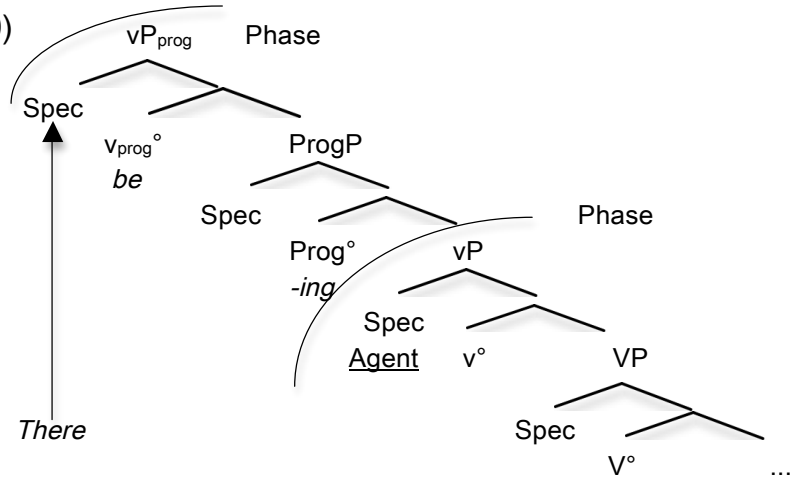
(19) *There were several people* ***arrested***.

In order to account for the fact that TECs *are* permitted in English if the lexical verb is inflected for progressive aspect, Deal (2009) claims, following Butler (2004) and Henry & Cottell (2007), that each auxiliary verb is merged into its own vP shell which introduces a separate phase. Consequently, expletive *there* may be alternatively merged on the edge of these subsequent phases. Therefore, since Spec-vP proper is not a viable position for merger of *there* in the majority of TECs, such constructions are dependent upon the presence of

[11] For languages which allow fully productive TECs, the above mentioned authors assume the expletive to be merged on the Spec-CP phase edge. Therefore merger of the expletive is not subject to whether or not an Agentive subject is present.

an additional auxiliary, such as progressive *be*, to introduce a new phase, as it offers a position in which *there* can be merged:[12]

(20)



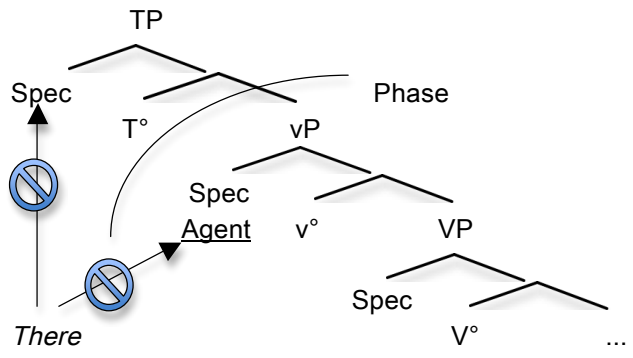
This explains why progressive TECs such as (21) are allowed, because the progressive auxiliary introduces a separate phase in the specifier of which expletive *there* can be merged.

(21) *There was a man **buying** a book*.

On the other hand, finite TECs such as (22) are disallowed because there is no auxiliary to introduce an extra phase beyond the original vP. Therefore, with the Agentive subject in Spec-vP, there is no position available in which *there* could be merged.

(22) * *There **buys** a man a book*.

(23)

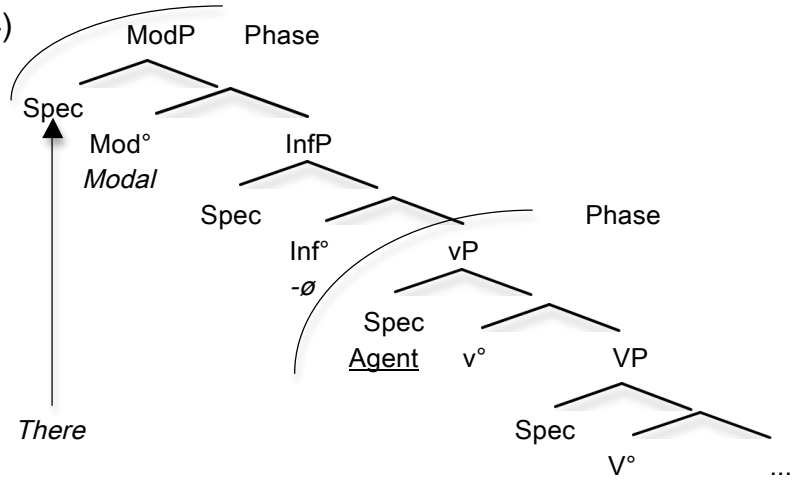


One of the shortcomings of this proposal however, is that Butler (2004), Deal (2009) and Henry & Cottell (2007) claim that all auxiliaries introduce a

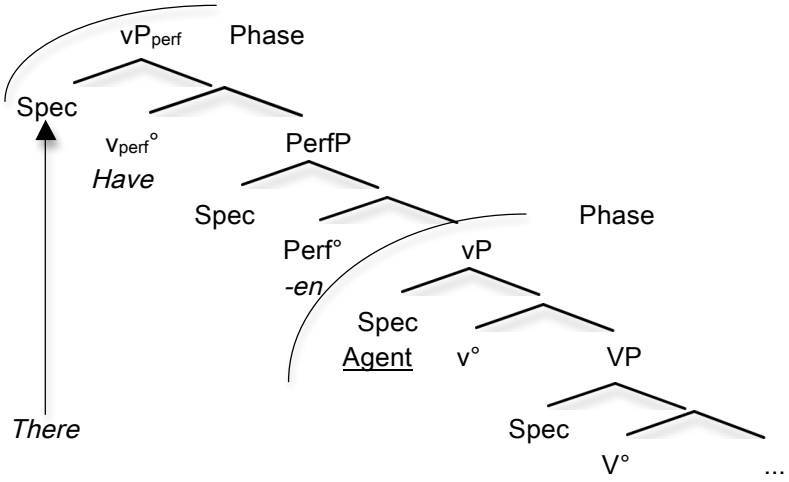
[12] In section 3 I enter fully into a discussion of the structure of the tense and aspectual hierarchy in English.

separate phase. This implies that perfect *have* and modals should also introduce a phase, in the specifier of which *there* could be merged:

(24)



(25)



Therefore, Deal (2009) is unable to rule out sentences such as (26)a,b.

(26) a. * *There has a man bought a book*.
b. * *There should a man buy a book*.

For this reason I reject the "low merger of *there*" analysis.[13]

In section 4 a novel analysis to the problem is presented. Before this, section 3 discusses two preliminaries for the analysis, namely the structure of the aspectual hierarchy in English, and the hybrid approach to verbal inflection.

[13] I do not however entirely reject the claim that expletives are merged on phase edges (Bowers 2002; Deal 2009; Henry & Cottell 2007; Richards 2007b; Richards & Biberauer 2005) as opposed to in Spec-TP (Chomsky 2000, 2001). I consider this a genuine possibility, although I do not believe it can entirely explain the cross-linguistic distribution of expletives on its own. For ease of exposition however, I will continue to assume as standard that expletives are merged in Spec-TP.

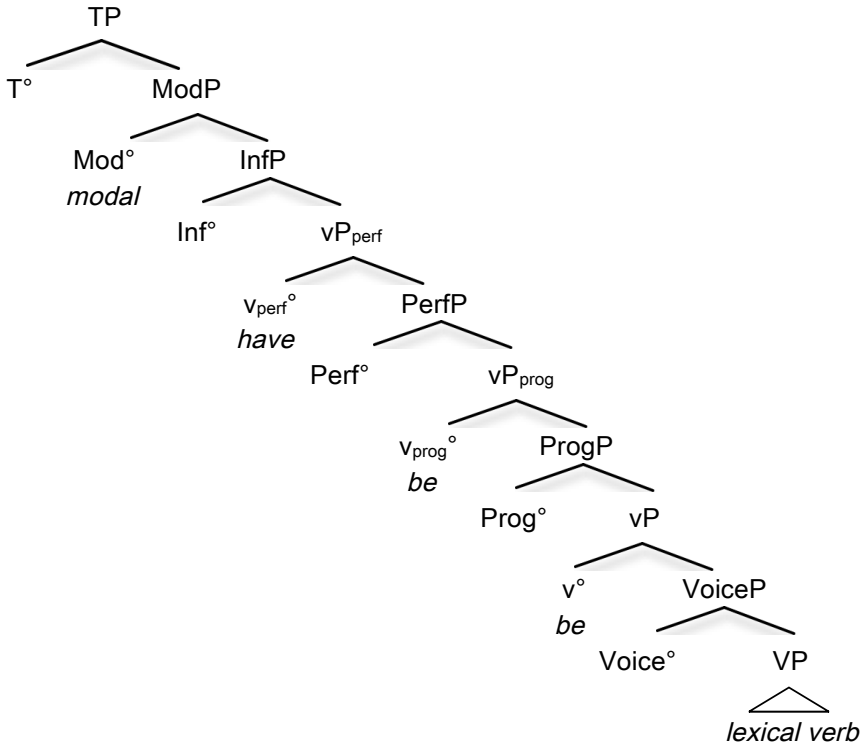
3. *Verbal inflection and the structure of the middle field*

In this section I briefly discuss two preliminaries for the analysis. In section 3.1, I present the structure of the middle field in English, that is, the aspectual hierarchy that ranges from VP to TP. Section 3.2 provides an overview of the hybrid approach to verbal inflection (Baker 2003, Lasnik 1995) that this paper adopts, and section 3.3 explains the principle motivations behind the hybrid approach.

3.1. *Structure of the middle field*

I assume, following Aelbrecht & Harwood (2013), Bošković (In Press a) and Harwood (2013a,b), the following hierarchical structure of the middle field of English. Italicised elements represent the abstract syntactic items in their base positions.

(27)



Essentially, the structure can be considered as a hierarchy of layers:

(28) T>Modal>Perfect Aspect>Progressive Aspect>Voice>V

Aside from T and V, each layer is divided into two projections. The lower projection is the aspectual phrase itself, which is the locus of inflection for that particular aspect, whilst the higher projection is a vP shell which introduces the relevant aspectual auxiliary.[14]

[14] Ideally, each aspectual layer would only be represented by one single projection. However, since I will be assuming that auxiliaries undergo overt head raising in the syntax (see section

To be more precise about the hierarchy, I assume T° to be the locus of tense and agreement, following standard generative approaches, whilst Spec-TP acts as the canonical subject position. The modal layer is situated directly below this, with the modal itself being merged in Mod°, and the head of InfP below it being the locus for infinitival inflections. Following the modal layer is the perfect aspectual layer, which includes vP_{perf} and PerfP. Perfect *have* is merged in v_{perf}°, and Perf° is the locus for the perfect aspectual inflection. Progressive *be* is similarly merged in the head of vP_{prog}, with Prog° below it being responsible for the progressive inflection. These two phrases together constitute the progressive aspectual layer. The Voice layer, below the progressive aspectual layer, is divided into vP and VoiceP. Due to the complementary distribution of passive and copula *be*, I follow Aelbrecht & Harwood (2013), Baker (1997), Bowers (2002), Eide & Åfarli (1997) and Harwood (2012, 2013a,b) in assuming these auxiliaries to be merged in the head of vP. The phrase below it, VoiceP, is the locus for the passive inflection, and encodes the active or passive status of the clause. Finally, the lexical verb itself is merged in V°.

I furthermore adopt a What You See Is What You Get (WYSIWYG) approach to functional projections. That is, if a particular modal or aspectual interpretation is not expressed in some way in the clause, the associated projections are absent in the underlying derivation. This is assumed specifically for the perfect, progressive and modal layers. TP I take to consistently project, as well as VP.[15] Following Bowers (2002) and Harwood (2013a), I take the Voice layer of vP and VoiceP to be present in passive and transitive constructions (see (29))[16] but in unaccusative constructions, the Voice layer is entirely absent and only VP itself projects (as in (30)).

(29) $[_{TP}$ T $[_{vP}$ v $[_{VoiceP}$ Voice $[_{VP}$ V]]]]

(30) $[_{TP}$ T $[_{VP}$ V]]

Having established a basic hierarchical structure from which to work, I now move on to the matter of how verbs receive their inflections.

3.2. *Verbal inflection*

This paper adopts a hybrid approach to verbal inflection, as advocated by Baker (2003) and Lasnik (1995). Under this system, verbs can receive inflections in one of two ways: they either undergo overt head movement in the narrow syntax to the relevant inflectional head, or they remain in situ and

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3.2.1), this paired layering is required to prevent auxiliaries from raising into one another's trace positions, a clear violation of Locality (Rizzi 1990).

[15] In copular sentences however, VP would be replaced by a PP, DP or AdjP predicate.

[16] vP and VoiceP would be present in unergative and ditransitive constructions also.

are merged together with the inflectional affix by virtue of being string adjacent to it at PF linearization. English is argued to exhibit both options (Baker 2003; Lasnik 1995): auxiliaries undergo overt movement in the syntax, whilst the lexical verb remains in situ and receives its inflection under linear adjacency. In section 3.2.1 I make explicit how auxiliary verbs behave under overt head movement, whilst in section 3.2.2 I explain how the lexical verb is merged together with its inflection under PF linear adjacency.

3.2.1. *Overt auxiliary raising*

Baker (2003) and Lasnik (1995) both argue that auxiliary verbs in English undergo overt head raising in the syntax for inflectional purposes.[17] Lasnik (1995) specifically assumes that such movement is motivated by abstract feature checking. That is, auxiliaries enter the derivation readily inflected but bearing strong unchecked inflectional features which must be checked against the relevant inflectional head in order to license the auxiliary's morphological form at PF. The inflectional heads, i.e. T° and the aspectual heads, therefore possess fully interpretable counterpart features which can satisfy the unchecked inflectional features on the auxiliaries. This checking forces the auxiliaries to raise to the relevant inflectional heads.

Specifically, I assume T° bears an interpretable inflectional feature valued as finite: [*i*T:Fin], whilst Inf° bears a similar feature but valued as infinitival: [*i*T:Inf]. Similarly, Perf° and Prog° bear interpretable inflectional features valued as Perfect and Progressive respectively: [*i*T:Perf] and [*i*T:Prog].

The passive or copula auxiliary *being* is merged already in this form, but bearing an unchecked progressive inflectional feature, [*u*T:Prog], which requires it to raise to Prog° in order to have this feature checked against its interpretable counterpart. *Been* is merged bearing [*u*T:Perf], and raises to Perf° to be checked against [*i*T:Perf]. *Have* bears a [*u*T:Inf] which must be checked in Inf° against [*i*T:Inf]. Finally, modals possess a [*u*T:Fin] feature which causes them to raise to T° to check against [*i*T:Fin].[18] This process of auxiliary raising can be illustrated using the following sentence:

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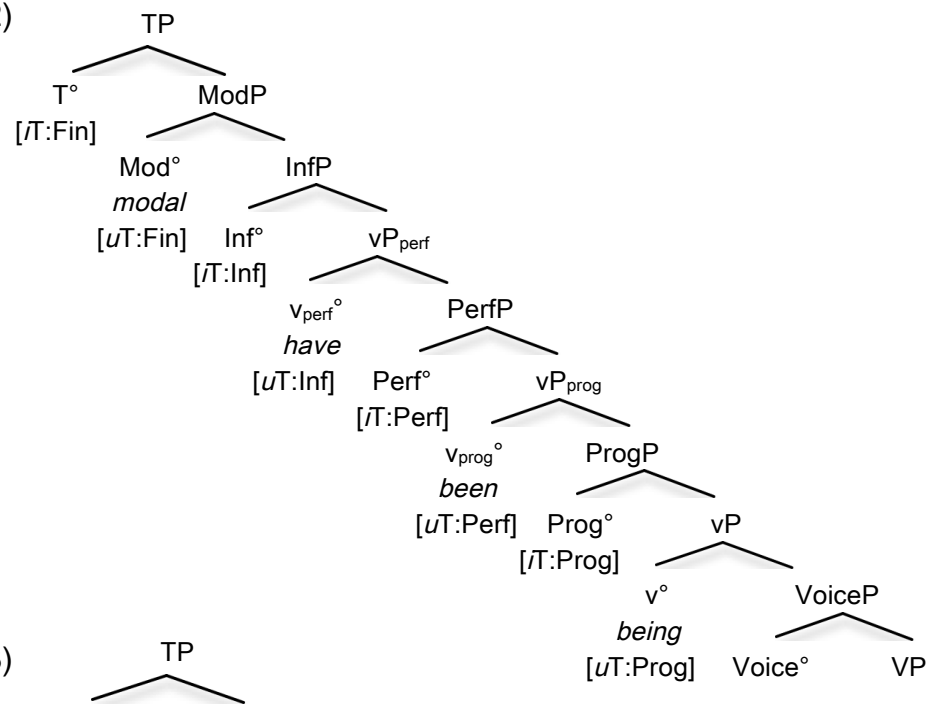
[17] Baker (2003) and Lasnik (1995) actually differ with regards to what motivates this overt raising of verbs in the syntax. Baker (2003) assumes overt head raising in order to host affixal inflections, whereas Lasnik (1995) assumes such raising is for abstract feature checking, as per Aelbrecht & Harwood (2013), Chomsky (1993, 1995) and Harwood (2013a,b). Baker (2003) justifies the need to rule out covert raising for feature checking, but not necessarily overt raising for feature checking. For the purposes of this article, it makes very little difference whether overt raising is in order to host a morphological affix or for abstract feature checking. However, due to the arguments put forward in Lasnik (1995) (see section 3.3.1), I generally side with the feature checking approach for overt verb raising and will adopt such an approach in this paper.

[18] This process of feature checking and movement works counter to the usual assumptions surrounding Agree and the Probe Goal relationship. See Bošković (2007) and Harwood

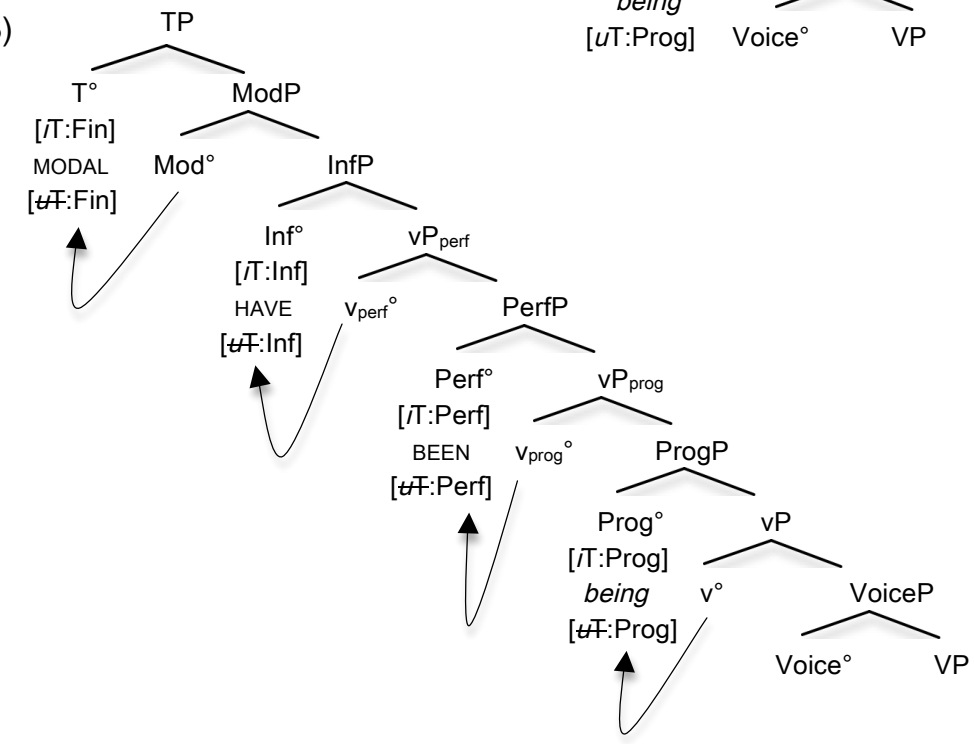
(31) *Roger Rabbit may have been being hassled by the police*.

The following two diagrams provide partial syntactic representations for this sentence. The diagram in (32) is the syntactic representation prior to head movement, whilst the diagram in (33) represents the actual process of overt head movement itself. The capitalised elements represent the fully inflected surface positions of syntactic items.

(32)



(33)



(2013b) for a theory of raising which allows movement to be driven by an unchecked feature on the moving item itself without having to sacrifice the basic principles of Agree.

Not included in this diagram is the behaviour of other finite auxiliaries, such as finite instances of *have* and *be*, and also infinitival *be*. For completeness sake, I outline how these auxiliaries behave here: Finite auxiliaries, similar to modals, bear a [*u*T:Fin] feature which causes them to raise and check against T's [*i*T:Fin] feature. Infinitival *be*, similar to infinitival have, bears a [*u*T:Inf] feature, causing it to raise to Inf° to be checked against [*i*T:Inf].

This concludes discussion on overt head movement in the syntax. In the following section I illustrate the process of merger under PF adjacency for verbs which remain in situ.

3.2.2. *Lexical verb in situ*

It is generally assumed that the lexical verb remains in situ in English, or at least does not raise beyond v° (Chomsky 1993; Emonds 1979; Pollock 1989). This of course raises the question of how lexical verbs are able to receive their inflections. Baker (2003) and Lasnik (1995) claim, following work by Chomsky (1957), Bobaljik (1994), Halle & Marantz (1993) and Marantz (1988), that lexical verbs enter the derivation bare and receive their inflections – which are affixal in the case of the lexical verb, see Lasnik (1995) – by virtue of being string adjacent to them at PF linearization. That is, the lexical verb does not receive inflections until PF, when the hierarchical dependencies of the syntax have been dispensed with and a strict linear order has been imposed. At this point, the only operations that can occur are between elements that are linearly adjacent to one another. In the case of the lexical verb, it can be merged together with the relevant inflectional affix if the two elements are string adjacent to one another:

(34) Judge Doom TENSE + **frame** Roger Rabbit = *Judge Doom framed Roger Rabbit*.

This explains how the lexical verb can receive inflections in English without having to raise.

Sometimes functional elements and arguments can intervene between the lexical verb and its inflectional affix to disrupt merger. Negation, for instance, is one such intervener:

(35) Judge Doom **TENSE** *not* **frame** Roger Rabbit.

In such cases, the verb and its affix are no longer adjacent, so PF merger is blocked:

(36) a. * *Judge Doom framed not Roger Rabbit*.
b. * *Judge Doom not framed Roger Rabbit*.

Instead dummy *do* must be inserted to host the finite inflection:

(37) *Judge Doom did not frame Roger Rabbit*.

This explains the need for *do* support with negation.

Similarly, if an argument intervenes, this also prevents the lexical verb and tense from merging. This is evidenced in wh-questions. In these cases, T raises to C whilst the subject remains in Spec-TP, thereby intervening between tense and the lexical verb:

(38) Why TENSE Judge Doom **frame** Roger Rabbit?

Therefore, tense and the lexical verb are prevented from merging:

(39) a. * *Why framed Judge Doom Roger Rabbit*?
b. * *Why Judge Doom framed Roger Rabbit*?

Instead dummy-*do* must again be inserted to host the finite inflection:

(40) *Why did Judge Doom frame Roger Rabbit*?

However, if the canonical subject is itself a wh-item, it moves above the tense affix in C, to Spec-CP. Therefore, it no longer intervenes between tense and the lexical verb:[19]

(41) Who TENSE **+ frame** Roger Rabbit?

The result is that the two elements can be merged together, explaining why no *do*-support is required when the wh-subject has raised to Spec-CP:

(42) *Who framed Roger Rabbit*?

Interestingly, adverbs seem not to act as interveners:

(43) Judge Doom TENSE *dastardly* **frame** Roger Rabbit
= *Judge Doom dastardly framed Roger Rabbit*.

This can be explained under Late Adjunction (Baker 2003, Lebeaux 1989, Newell 2005, Stepanov 2001), in which adjuncts are not merged into the

[19] Traces have been claimed not to act as interveners within the merger under adjacency literature.

derivation until later, after merger under PF adjacency has occurred. Therefore, adverbs do not act as interveners.

Note that for verbs which undergo overt syntactic head movement, such as English auxiliaries, arguments and functional elements like negation do not act as interveners since they only intervene at PF linearization and not in the syntax. This is evidenced by the fact that auxiliaries can raise over negation, and also over the subject in wh-questions:

(44) a. *Roger Rabbit* ***was*** *not framed by Eddie Valient*.
b. *Who* ***was*** *Roger Rabbit framed by*?

This concludes our explanation of the basic principles behind merger under adjacency. In the following section I discuss the fundamental motivations for the hybrid approach.

3.3. *Motivation for the hybrid approach*

In this section I explore the two most convincing arguments in favour of the hybrid approach to verbal inflection. Section 3.3.1 discusses Lasnik's (1995) research into the interaction between VP ellipsis and verbal morphology, whilst section 3.3.2 summarises Baker's (2003) investigations into the non-existence of (Aux)-S-V-O languages.

3.3.1. *Ellipsis and verbal morphology*

Lasnik (1995) and Warner (1986) observe that auxiliaries can only be elided if they have an identical antecedent:

(45) a. *Sue* ***was*** *eaten by cannibals, and now Rob might *(****be****) ~~eaten...~~*
b. *Sue has already* ***been*** *eaten by cannibals, and now Rob will *(****be****) ~~eaten...~~*
c. *First Sue will* ***be*** *eaten by cannibals, and then Rob will (****be****) ~~eaten...~~*
d. *Sue* ***was*** *eaten by cannibals after Rob had *(****been****) ~~eaten...~~*
e. *Sue might* ***be*** *eaten by cannibals now that Rob has *(****been****) ~~eaten...~~*
f. *Sue has* ***been*** *eaten by cannibals, and Rob has (****been****) ~~eaten...~~, too*.

Lexical verbs on the other hand, do not require an identical antecedent to be elided (Lasnik 1995; Quirk et al 1972; Sag 1976; Warner 1986):

(46) a. *First John* ***appeared*** *in the example sentence, and soon Mary will* ~~***appear***~~*...*
b. *John has already* ***appeared*** *in the example, and soon Mary will* ~~***appear***~~*...*
c. *John often* ***appears*** *in the example, and Mary often has* ~~***appeared***~~*..., too*.

d. *John will inevitably* ***appear*** *in the example because Mary has* ~~***appeared***~~*...*

Lasnik (1995) claims that the hybrid approach to verbal inflection can account for this contrast if one also assumes a strict identity condition on ellipsis, in which the elided constituent must be identical to its antecedent at some point in the derivation in order for it to be recoverable. Recall that, crucially, auxiliaries enter the derivation readily inflected and raise for feature checking. This implies that if an elided auxiliary and its antecedent are not identical on the surface, they were never identical at any point in the derivation. Therefore, the elided auxiliary cannot be recovered, so ellipsis of this auxiliary is ungrammatical as it violates the recoverability condition.

Lexical verbs, on the other hand, enter the derivation bare and only receive their inflections via merger under linear adjacency. So even if the elided lexical verb and its antecedent are not identical on the surface, the derivation is still licit because they were identical in the underlying derivation, thus the verb can be recovered. This correctly explains the data and hence provides evidence for a hybrid approach to verbal inflection.

3.3.2. *The non-existence of (Aux)-S-V-O languages*

Baker (2003) observes that if all verbs underwent either overt or covert movement, then, when one considers the two basic parameters of subject raising and lexical verb raising together, four types of languages are predicted to exist:

- Languages in which the subject raises to Spec-TP and the finite lexical verb raises to T°, as in French.
- Languages in which the subject raises to Spec-TP, but the finite lexical verb remains in situ, as in English.
- Languages in which the subject remains in situ in Spec-vP but the finite lexical verb raises to T°, as in Welsh and Irish.
- Languages in which both the subject and the finite lexical verb remain in situ.

If the lexical verb, when it remains in situ, received inflection by covertly raising to T°, as in Chomsky (1993, 1995), then the fourth option would be predicted to be possible. That is, a language in which both the subject and the lexical verb remain in situ should occur in the natural languages of the world. The subject and lexical verb, remaining in their base positions, would exhibit an SV order, but one in which auxiliaries and negation precede both the subject and the lexical verb:

(47) (Aux/T/Neg)-S-V-O

Importantly, even when the lexical verb is finite, an SV order would be maintained rather than VS, as the lexical verb would still remain in situ, only covertly raising beyond the subject to T° for inflectional purposes.

However, this type of language is not attested. Baker (2003) argues this is because covert raising of the lexical verb is not possible. As stated earlier, Baker (2003) claims that verbs can receive inflections in only one of two ways: they either raise in the narrow syntax to the relevant inflectional head, or they remain in situ and are merged together with the inflectional affix by virtue of being string adjacent to it at PF linearization. So if a lexical verb remains in situ, as in English, and as in the fourth language type, it must be string adjacent to an affix in order to be merged with it. However, because the subject in the fourth language type also remains low, it intervenes between the tense affix and the lexical verb, preventing merger of the two:

(48) TENSE subject **verb** = ***Fin. V** Subject / *Subject **Fin. V**

This therefore rules out the fourth language type.[20] Languages in which the subject raises but the lexical verb does not, as in English, are of course possible, because the subject raises above tense, therefore it no longer intervenes between the tense affix and the lexical verb (cf. (49)a). Languages in which the subject remains low but the lexical verb raises, as in Irish and Welsh, are possible because the lexical verb in those languages undergoes head movement in the syntax, therefore the subject does not intervene (cf. (49)b). Finally, languages in which both the subject and the verb raise, as in French, are of course possible, because, once again, the verb raises in the syntax, so is not at the mercy of any intervening arguments, although the subject has risen beyond T regardless (cf. (49)c).

(49) a. subject$_i$ TENSE t_i **verb**

= subject TENSE + **verb** = subject **Fin. V** (English)

b. **finite V**$_i$ subject t_i = **finite V** subject (Irish/Welsh)

c. subject$_i$ **finite V**$_j$ t_i t_j = subject **finite V** (French)

This provides further support for the hybrid approach and against an approach in which verbs have the option of raising covertly in the syntax.

[20] Of course, this type of language would be possible if it could make use of *do*-support. One must therefore wonder why such languages do not exist.

To summarise section 3, verbal inflection operates in one of two ways: either the verb undergoes overt head movement in the narrow syntax to the relevant inflectional head for the purposes of feature checking, or it remains in situ and is merged together with the inflectional affix by virtue of them being string adjacent at PF linearization. English exhibits both options: auxiliaries undergo syntactic head movement, whilst lexical verbs remain in situ and receive inflections via linear adjacency. For verbs which undergo head movement in the syntax, functional items such as negation, and arguments, do not act as interveners – the verb can simply raise over these elements in order to check its inflectional features. For verbs which remain in situ and receive inflection at linearization however, functional elements and arguments can act as interveners between the lexical verb and its inflectional affix, thereby preventing attachment of the affix onto the verb.

This concludes the preliminaries to the analysis. The following section provides an account for the aspectual restrictions on English existentials.

4. *Analysis: the aspectual restrictions on English existentials*

Recall first the pattern that this article is aiming to account for. Lexical verbs in English TECs are restricted only to progressive and passive inflections:

(50) a. * *There **buys** someone a book*. (Finite)
b. * *There should someone **buy** a book*. (Infinitive)
c. * *There has someone **bought** a book*. (Perfect)
d. *There was someone **buying** a book*. (Progressive)
e. *There were several people arrested*. (Passive)

Lexical verbs in English UECs, on the other hand, are not subject to such restrictions:

(51) a. *There arrived several letters in the mail today*. (Finite)
b. *There will arrive several letters in the mail today*. (Infinitive)
c. *There have arrived several letters in the mail*. (Perfect)
d. *There are several letters arriving in the mail today*. (Progressive)

To explain this pattern I claim, following Harwood (2012, 2013a), that the pre-verbal associate in English TECs occupies the edge of the progressive aspectual layer. Therefore the associate intervenes between the lexical verb and perfect, infinitival and finite inflections, preventing PF merger of these items. However, it does not intervene for progressive and passive inflections. The associate in UECs however, sits in post-verbal position, therefore it does not intervene at all for the purposes of verbal inflection.

Section 4.1 provides the analysis of English TECs in detail, whilst section 4.2 does the same for UECs.

4.1. *English TECs*

The first point to consider when accounting for the aspectual restrictions on TECs in Standard English is the distribution of the associate in these constructions. Crucially, the associate always appears in a pre-verbal position:

(52) a. *There was someone **buying** a book*. (Progressive)
b. *There were several people **arrested***. (Passive)

This is generally unremarkable for the TEC in (52)a, in which the associate is an Agentive subject that is already merged in the pre-verbal position of Spec-vP (Contreras 1987; Kitagawa 1986; Koopman & Sportiche 1991; Kuroda 1988; Speas 1986; Zagona 1982). What is remarkable is that the derived associate in the passivised TEC in (52)b also surfaces in pre-verbal position, despite the fact that it originates post-verbally as the complement of V° (Baker, Johnson & Robert 1989; Chomsky 1975; Collins 2005). This begs the question, if the derived associate does not occupy its base position, nor the canonical subject position, then what is the nature of the intermediate position that it surfaces in? Furthermore, if the derived associate does not occupy its base position, can we be certain that the agentive associate in (52)a still sits in its base position? I follow Harwood (2012, 2013a) in claiming that the associate in English TECs generally surfaces on the edge of the progressive aspectual layer. This is evidenced by the fact that, as originally noted by Milsark (1974), both derived and agentive associates must follow infinitival forms of auxiliaries (see (53)), and also those inflected for perfect aspect (see (54)), but must precede auxiliaries inflected for progressive aspect (as in (55)):[21]

(53) a. *There will **be** many people arrested for drunkenness tonight*.
b. *Tomorrow there will **be** a plague of rabbits in your garden*.
c. *Tomorrow there will **be** many rabbits breeding on your front lawn*.

(54) a. *There have **been** many people arrested for drunkenness*.
b. *There has **been** a plague of rabbits in your garden all morning*.
c. *There have **been** many rabbits breeding on your front lawn*.

(55) a. *There were many people **being** arrested for drunkenness*.
b. *There were several rabbits **being** loud and obnoxious yesterday*.

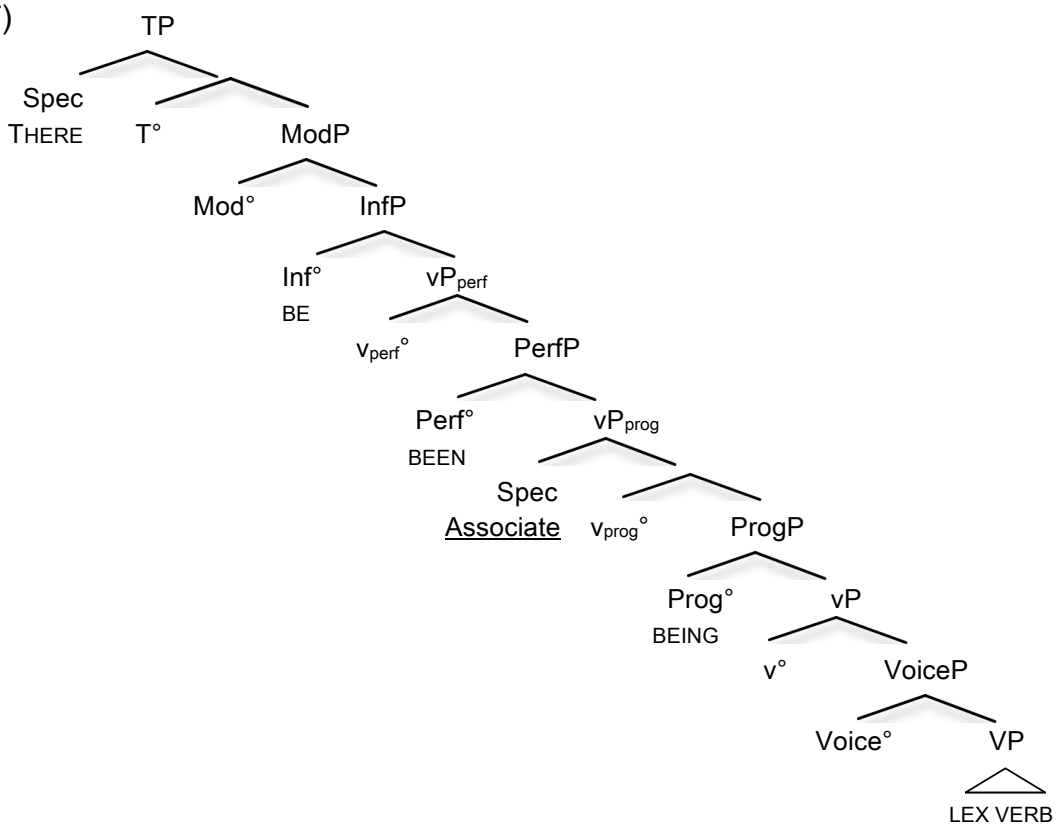
[21] Since non-passive TECs lack a *being* form, it is somewhat harder to demonstrate the distribution of the agentive associate with regards to *being*, though in copula existentials in Standard English, the agentive associate can indeed be found preceding the copula instance of *being*, as illustrated in (55)b.

This data can be summarised as follows:

(56) **Be/Been** > Associate > **Being**.

Recall, furthermore, that in section 3 I established that *be* surfaces in Inf°, *been* in Perf° and *being* in Prog°.[22] Therefore, if the associate must follow *be* and *been* but precede *being*, then it must sit somewhere on the edge of the progressive aspectual layer. Specifically, Harwood (2012, 2013a) claims that the associate surfaces in Spec-vP_{prog}:

(57)



However, I also assume a WYSWIYG approach, which raises the question of where the associate sits when progressive aspect is absent from the derivation. As noted previously, associates in English TECs always appear in a pre-verbal position. I follow Harwood (2012, 2013a) in assuming that in the absence of progressive aspect, the associate surfaces in Spec-vP (as Chomsky 2000, 2001 claims for all pre-verbal associates):

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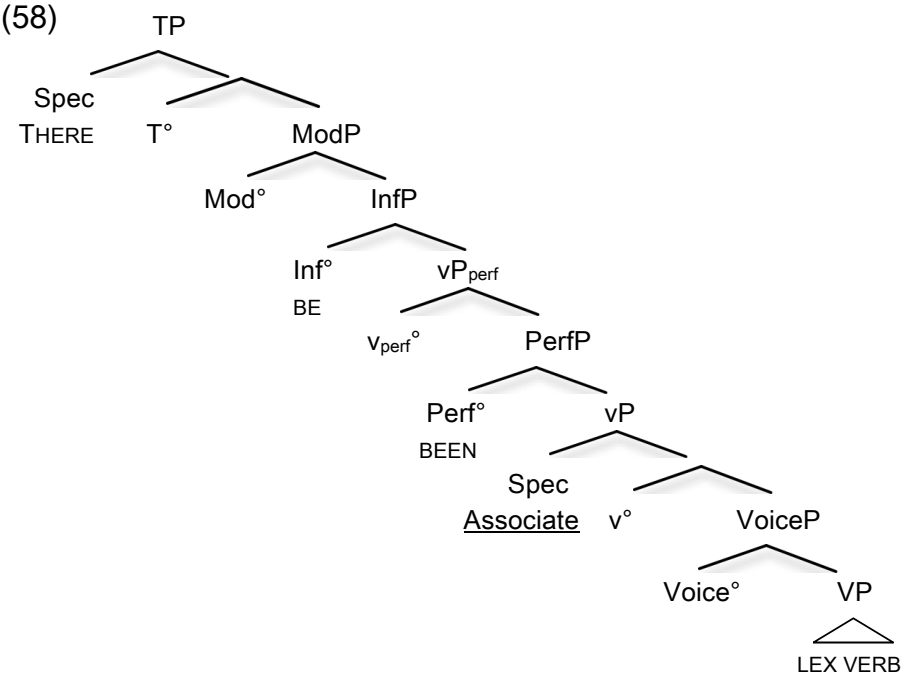
[22] Akmajian, Steele & Wasow (1979), Akmajian & Wasow (1975), Bošković (2004, In Press a), Iwakura (1977), Lobeck (1987) and Thoms (2011) have all claimed, however, that *being* behaves differently from all other auxiliaries in that it does not raise for inflectional purposes. That is, it does not raise to Prog°, but remains in situ and receives its inflection in a manner similar to the lexical verb. See Aelbrecht & Harwood (2013) and Harwood (2013a,b) for critical discussion of this approach.

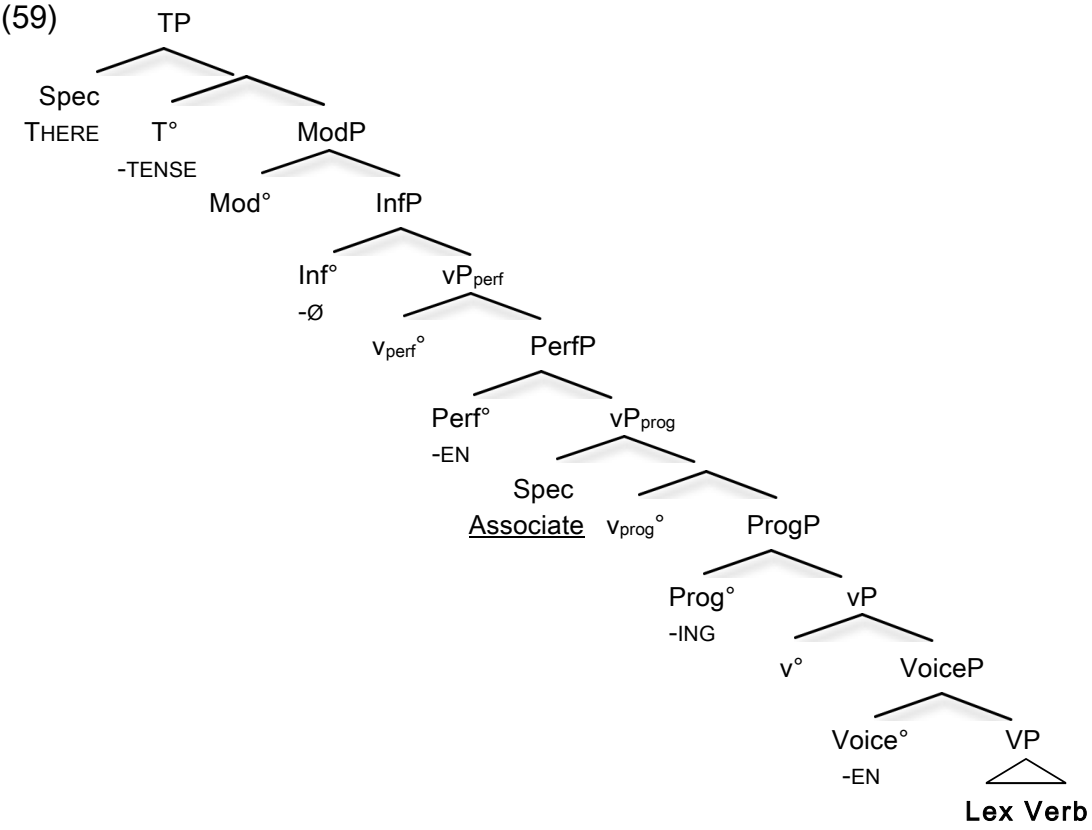
(58)



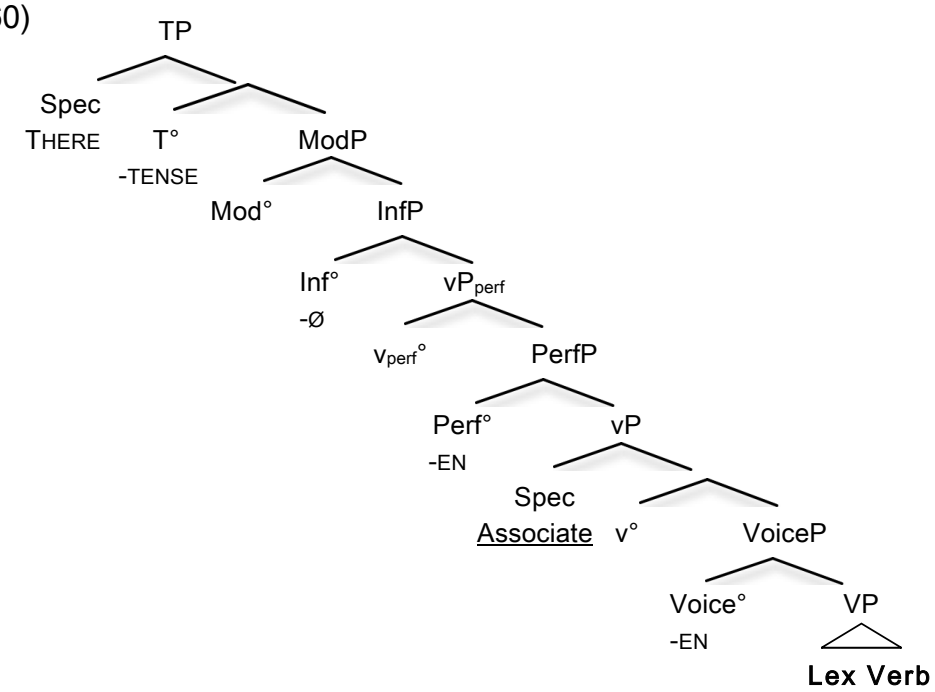
In section 5 I provide an explanation for why the associate surfaces in these positions. For now we will simply assume this claim to be correct and explore the consequences that the distribution of the associate has for verbal inflection in English TECs.

Let us next consider where the associate sits, both in the presence and absence of the progressive layer, in relation to the inflectional affixes with which the lexical verb can merge at PF:

(59)



(60)



In other words, the associate always surfaces above passive and progressive inflectional morphology, but below finite, infinitival and perfect morphology. Consider now what this generally implies at PF when the syntactic hierarchy no longer matters and a strict linear order has been implemented:

(61) There > -TENSE > –Ø > –EN > Associate > –ING > –EN > **Lex Verb**

Recall that arguments can intervene for the purposes of merger under linear adjacency. With this in mind, note that the associate does not intervene between the lexical verb and progressive or passive inflectional affixes. Therefore, the lexical verb can merge at PF with these affixes:

(62) a. There was a man –ING + **buy** a book.
= *There was a man buying a book*.
b. There were several people –ED + **arrest**
= *There were several people arrested*.

However, the associate does intervene between the lexical verb and finite, infinitival and perfect inflections, preventing PF merger of the lexical verb with these affixes:

(63) There has –ED someone **buy** a book.
= **There has someone bought a book*.

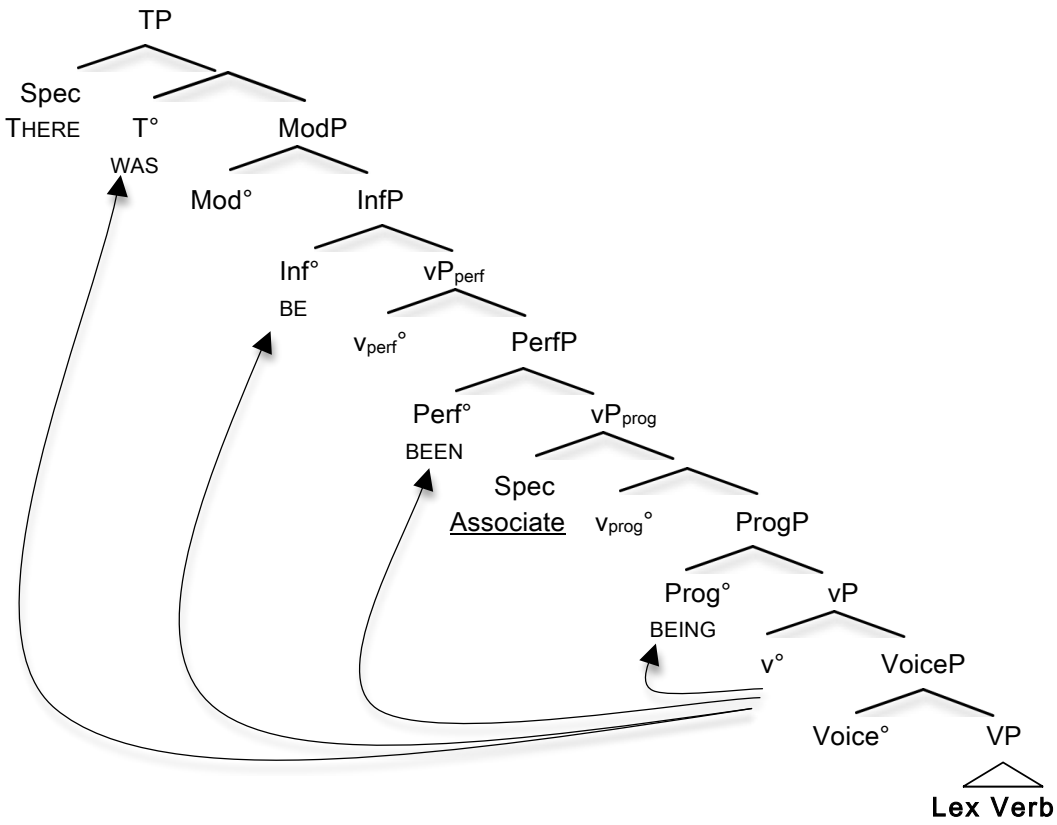
(64) There will –Ø someone **buy** a book.
= **There will someone buy a book*.

(65) There -TENSE someone **buy** a book
= **There buys someone a book*.

This explains why progressive and passive participial forms of the lexical verb are possible in English TECs, but not perfect, infinitival or finite forms.

Since auxiliaries undergo syntactic head movement, they are not subject to linearization constraints. Therefore the associate does not act as an intervener for auxiliaries, so they are free to surface in any type of inflected form, raising in the syntax beyond the associate if need be. I illustrate this below with the passive auxiliary, though the same principle applies to other auxiliaries.

(66)



This fully explains the aspectual restrictions on the lexical verbs in Standard English TECs. In the next section I explain why English UECs are not subject to the same restrictions.

4.2. *English UECs*

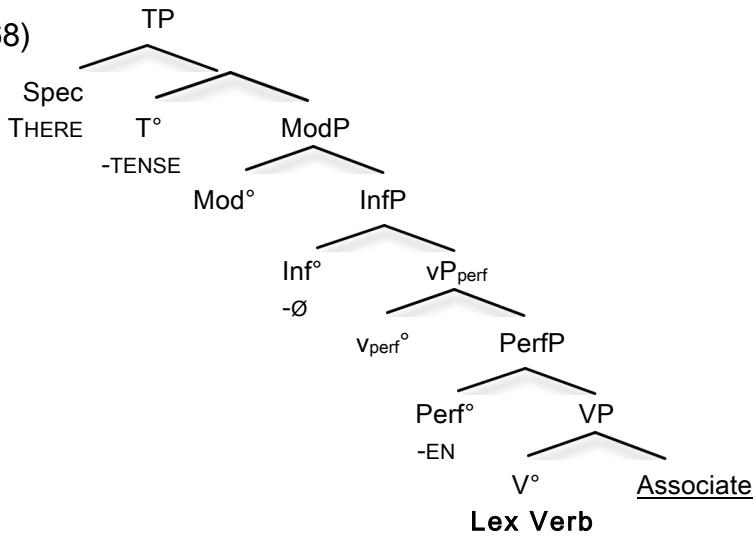
In contrast to TECs, the associate in English UECs actually occurs in post-verbal position:[23]

[23] I initially leave aside UECs bearing progressive aspect until the end of this section for ease of exposition, as these types of UECs are slightly more complex.

(67) a. *There* ***arrived*** *several letters in the mail today*. (Finite)
b. *There will* ***arrive*** *several letters in the mail today*. (Infinitive)
c. *There have* ***arrived*** *several letters in the mail*. (Perfect)

I assume therefore that the associate remains in its base position as the complement of V°:[24]

(68)



This implies that when the structure is linearized, the associate, remaining in post-verbal position, does not intervene between the lexical verb and any of its potential inflectional affixes:

(69) There > -TENSE > –Ø > –EN > **Lex Verb** > Associate

Therefore, the lexical verb is free to merge at PF with any inflectional affix:

(70) a. There –TENSE + **arrive** several letters = *There arrived several letters*.
b. There will –Ø + **arrive** several letters = *There will arrive several letters*.
c. There have –ED + **arrive** several letters = *There have arrived several letters*.

This generally explains the lack of aspectual restrictions on English UECs.

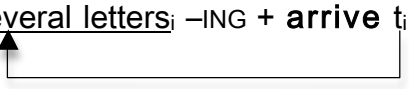
One issue which arises in the data, but which I have so far neglected to comment on, is the fact that when the unaccusative verb is inflected for progressive aspect, the associate appears in pre-verbal position, similar to in TECs:

(71) *There are several letters* ***arriving*** *in the mail today*. (Progressive)

[24] Recall that I assume vP and VoiceP to be absent in unaccusative constructions.

I assume that in this instance, the associate raises above the progressive inflection to Spec-vP_{prog}, similar to English TECs. Therefore, the associate does not intervene between the progressive morpheme and the lexical verb, so the two elements may merge together at PF:

(72) There were several letters$_i$ –ING + **arrive** t_i = *There were several letters arriving*.



This successfully explains the aspectual restrictions on English TECs, and the lack of such restrictions in English UECs: the associate of the UEC generally remains in post-verbal position in English, so is unable to intervene for the purposes of verbal inflection, unlike in English TECs in which the pre-verbal associate intervenes for a number of inflectional forms.

Having fully captured the aspectual restrictions of English existentials, I turn now in section 5 to the distribution of the associate, with a view to explaining why it appears in the positions in which it does. I come back to the aspectual restrictions in section 6, where I explore the cross-linguistic implications of the analysis I have offered here.

5. *The distribution of the associate*

The pattern to account for is the following:

- In English TECs, the associate always appears in pre-verbal position where it also precedes *being* but follows *be/been* when such auxiliaries are present.
- In English UECs, the associate appears in post-verbal position, except when the lexical verb is inflected for progressive aspect, in which case the associate appears pre-verbally.

To understand this distribution, the following has been assumed:

- In English TECs, the associate raises to Spec-vP_{prog} when the progressive layer is present, and to Spec-vP otherwise.
- In English UECs, the associate remains as the complement of V°, except when the progressive layer is present, in which case the associate raises to Spec-vP_{prog}, similar to in TECs.

The task here is to understand *why* the associate should surface in these positions. In section 5.1 I tackle the distribution of associates in TECs, whilst in section 5.2 I deal with the distribution of associates in UECs. Section 5.3 discusses any further issues which arise, and also provides supporting evidence for the analysis.

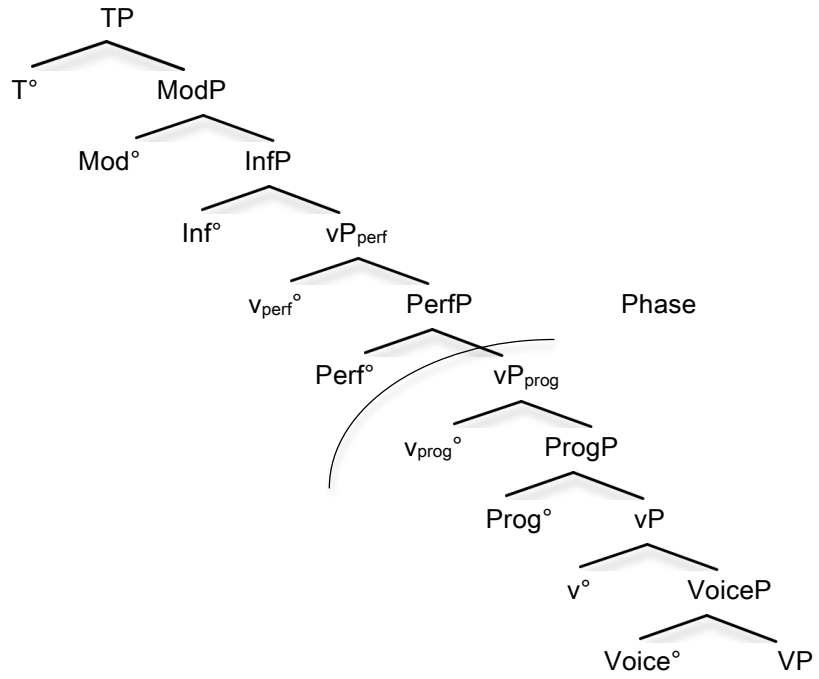
5.1. *TEC Associates*

In order to explain the distribution of the associate, I follow Harwood's (2013a) assumptions regarding the size of the clause internal phase. Harwood observes that auxiliaries which have risen into the progressive layer for inflectional purposes, i.e. *being*, are obligatorily deleted under VP ellipsis, and obligatorily fronted under VP fronting:

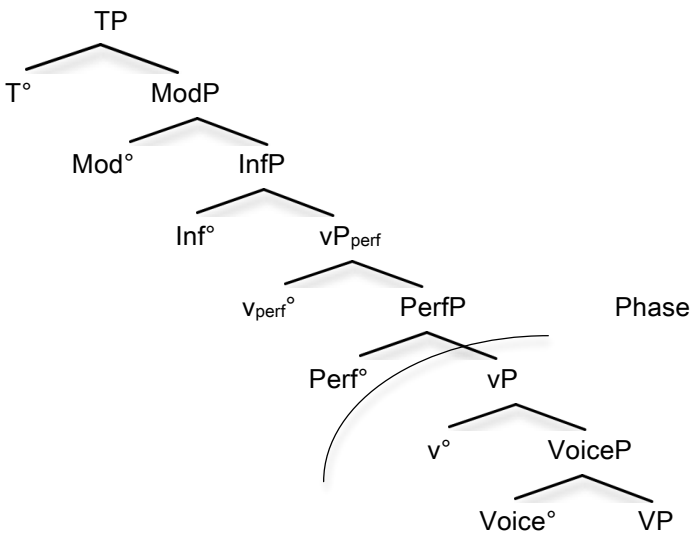
(73) a. *Roger Rabbit was being framed, but Jessica Rabbit wasn't* ***(*being)*** ~~*framed*~~.
b. *If Roger says he is being framed, then [**__(being)__ *framed] he is* ***(*being)***.

Backed up with additional evidence from English idiomatic constructions, Harwood (2013a) uses this data to argue that the clause internal phase in English may be larger than vP, and can extend as far as vP_{prog}, i.e., the progressive aspectual layer (cf. (74)). Higher aspectual layers however, such as the perfect layer, are not included within the clause internal phase. Obviously, if one takes a WYSWIYG approach (as Harwood does), the progressive aspectual layer is not always present, implying that vP_{prog} cannot always project the clause internal phase. In such cases, Harwood assumes vP to act as the clause internal phase (cf. (75)).

(74)



(75)



Harwood (2013a:(76)) formalises this variable phase boundary with the following rule:

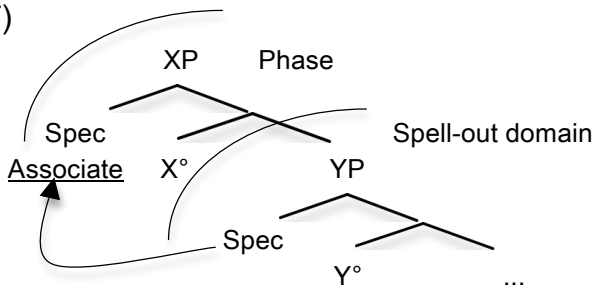
(76) a. Phases are determined by sub-numerations.
b. The last item from a sub-numeration to be merged into the workspace projects the phase, irrespective of what that item is.

He then claims that progressive aspect, exhibiting certain predicate-like properties, is contained within the first sub-numeration of the clause, along with the lexical verb, its arguments, vP and VoiceP. Perfect aspect, modals and T, however, are contained within the second sub-numeration of the clause (see Harwood 2013a for details and argumentation). This implies that if progressive aspect projects, it is the last item to be merged from the first sub-numeration and so acts as the phase (as in (74) above). In the absence of progressive aspect, vP would be the last item to project from the first sub-numeration, so vP would act as the phase (as in (75) above).[25]

By recasting Chomsky's (2000, 2001) analysis of existential constructions in light of this alternative approach to phases, we are then able to explain the distribution of the associate in English TECs. The associate is merged within the clause internal phase bearing an unchecked Nominative Case feature which must be checked by T° in the higher phase. It therefore raises to the clause internal phase edge so as to escape spell out of the phasal complement (the spell-out domain) and remain accessible:

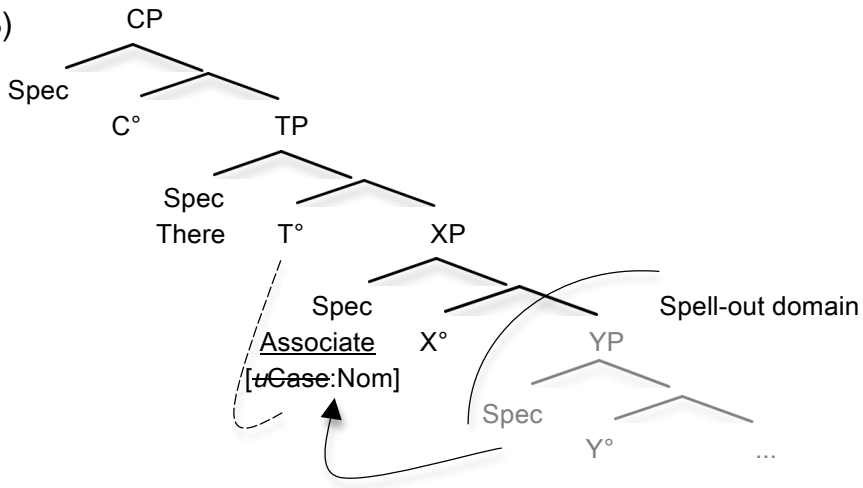
[25] Under such an approach to phases, the low-merger of *there* analysis as presented in Deal (2009) could potentially be salvaged in order to explain the aspectual restrictions on English TECs, though I do not explore this alternative option here.

(77)



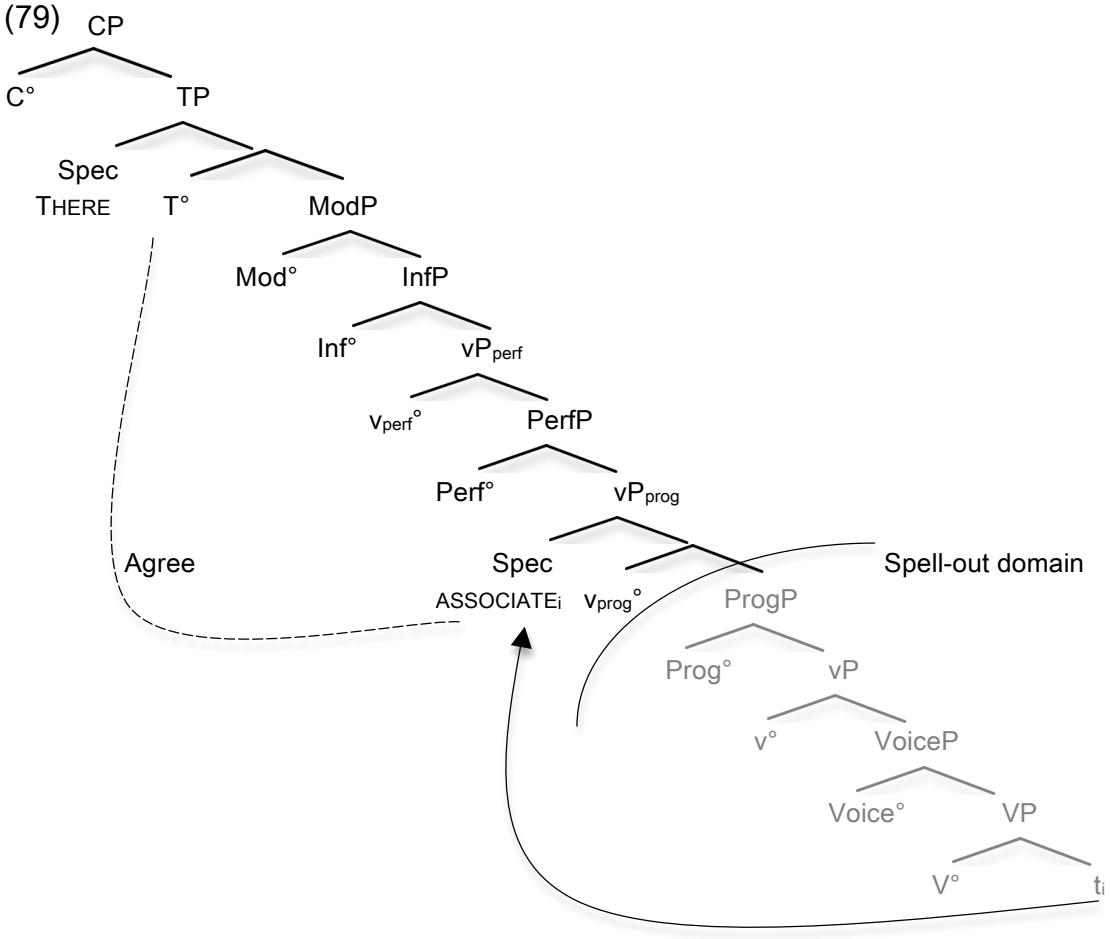
As a result, the associate will be visible to T° when T° is finally merged in the higher phase. If the construction were non-existential, the associate, i.e. the subject, would raise to Spec-TP to satisfy the EPP and have its Case checked by T° in that position. However, in an existential construction, expletive *there* is merged directly into Spec-TP, satisfying the EPP and thereby blocking any further movement of the associate. The associate is therefore stranded on the edge of the clause internal phase where it has its Case feature checked by T° via Agree (and subsequently values T's phi features off the back of this operation). This is illustrated in the following diagram (the solid line represents movement, the dotted line Agree. The greyed out area represents that part of the derivation which has already been spelt out):

(78)



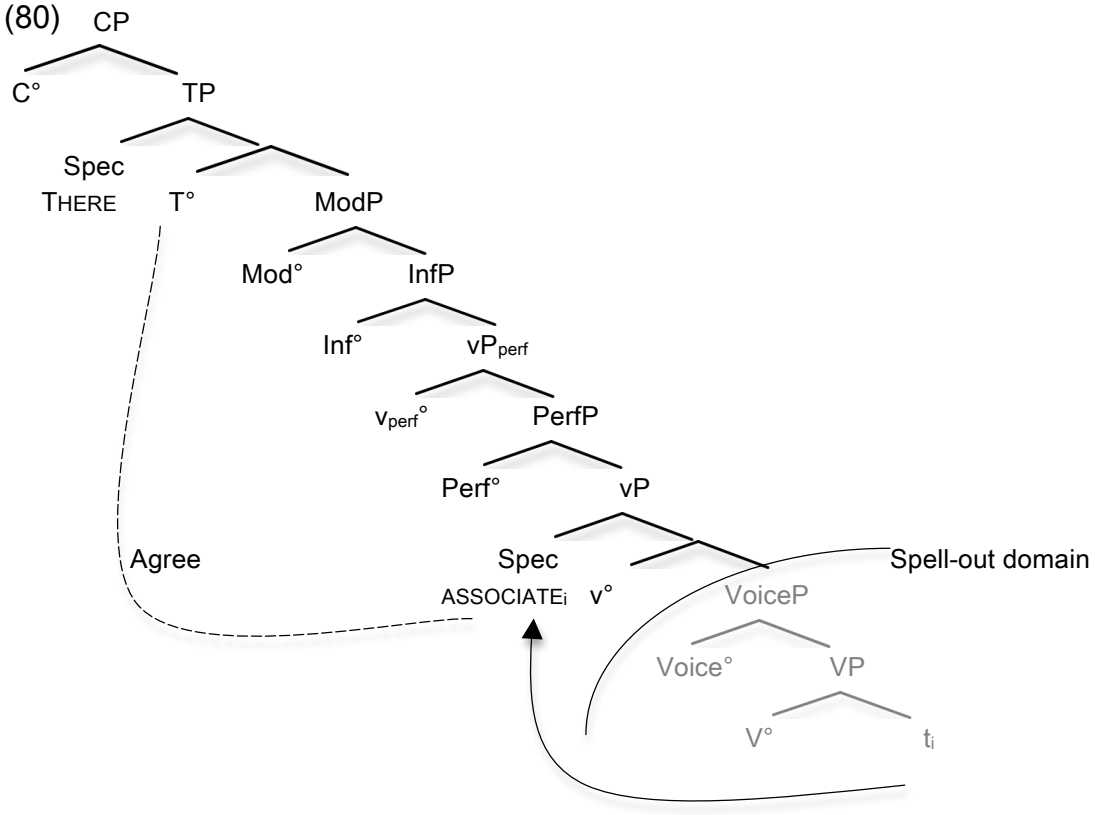
If vP_{prog} acts as the clause internal phase when the progressive aspectual layer projects (Harwood 2013a), then the associate would naturally raise to the phase edge of Spec-vP_{prog}, explaining how the associate surfaces in this position. I illustrate this below with the derived associate of a passivised TEC, but the same principle also applies to non-passivised TECs, the only difference being that the associate raises from Spec-vP to Spec-vP_{prog} rather than from the complement of V°.

(79)



Obviously, when the progressive aspectual layer does not project, vP acts as the clause internal phase, in which case the associate raises to the Spec-vP phase edge (Harwood 2013a):

(80)

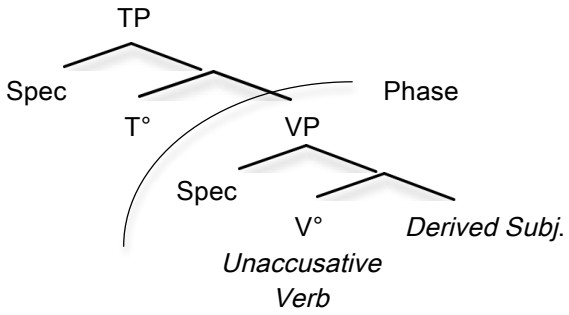


This successfully explains the distribution of the associate in English TECs. In the next section I turn to the distribution of derived associates in English UECs.

5.2. *UEC Associates*

Explaining the post-verbal distribution of the associate in UECs is more complex.[26] Recall from section 3.1 that I assume vP and VoiceP to consistently project in all transitive constructions, including those that have been passivised, but that such projections are absent with unaccusatives. Therefore TP and VP are the only phrases which consistently project in unaccusative constructions (see also Bowers 2002 and Hale & Keyser 1993 for similar claims). Harwood (2013a) assumes that in this instance, VP projects the clause internal phase, on account of V (the unaccusative verb) and its internal argument being the only elements within the first sub-numeration (unless the progressive projections are present, see below), and V being the last item from the sub-numeration to be merged into the workspace:

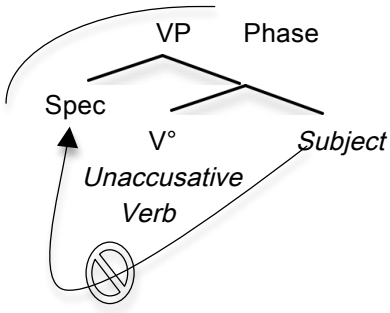
(81)



Recall that in TECs, the associate, bearing an unchecked Nominative Case feature that must be checked against T°, raises to the edge of the clause internal phase so as to escape spell out of the phasal complement and remain visible to T°, thereby allowing its Case feature to be checked. Merger of expletive *there* in Spec-TP prevents the associate from raising any further, therefore stranding the associate on the clause internal phase edge. For the derived associate of a UEC, we would also expect the associate, bearing an unchecked Nominative Case feature, to raise to the clause internal phase edge. However, this would involve the associate raising from its base position as the complement of V°, into the specifier of the same phrase, Spec-VP. Such movement is ruled out by anti-locality (Abels 2003; Bošković In Press a,b; Grohmann 2000; Pesetsky & Torrego 2001), which generally bans complement-to-specifier movement within a single phrase. Therefore, the associate remains in its base, post-verbal position.

[26] See Caponigro & Schütze (2003) for an alternative explanation to the one proposed here, but which is incompatible with the account I have offered for the aspectual restrictions on English existentials.

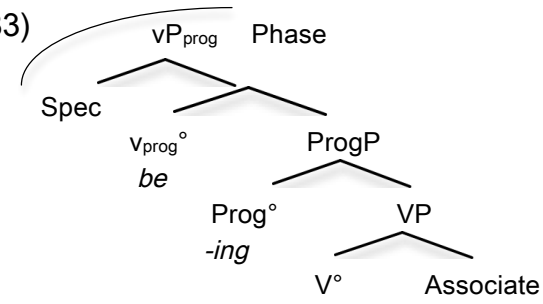
(82)



Finally, when T° is merged, expletive *there* is merged directly into Spec-TP, satisfying the EPP and preventing the associate from raising. The associate is therefore stranded in its base, post-verbal position, correctly explaining the general distribution of the associate in UECs.

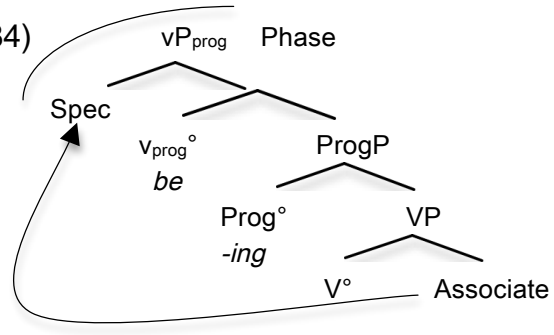
Before finishing this section, I deal with UECs in which progressive aspect is present, in which case the associate occurs in pre-verbal position, surfacing, as I have suggested, in Spec-vP_{prog}. As previously assumed, vP and VoiceP never project with unaccusatives. The progressive aspectual layer, on the other hand, does project when it is expressed in the derivation. As already claimed, the progressive aspectual layer is contained within the first sub-numeration, alongside the unaccusative verb and its internal argument. The progressive layer however, is merged last into the workspace, implying that the highest projection of this layer, vP_{prog}, acts as the clause internal phase. Therefore, the unaccusative VP is denied phasal status in the presence of progressive aspect:

(83)



In this instance, the derived associate is able to move to the phase edge since this involves raising from the complement of V° to Spec-vP_{prog} rather than to Spec-VP. This movement is obviously not within the same phrase and so does not constitute an anti-locality violation.

(84)



The derived associate is then stranded in this position upon merger of expletive *there* into Spec-TP during construction of the higher phase. This correctly derives the pre-verbal distribution of the derived associate in progressive UECs in English.

Recall also that, according to Harwood (2013a), neither perfect aspect nor the modal layer constitute part of the clause internal phase. This explains why a pre-verbal position is not available when these projections are present: they do not extend the size of the clause internal phase, so there are no means of circumventing the anti-locality violation that would ensue when the associate raises to the Spec-VP phase edge. This captures the distribution of the associate in English UECs.

The general analysis offered in this section gives rise to two further questions, namely, how the derived associate of a non-progressive UEC is able to have its Case feature checked by T° if it remains inside the clause internal phase, and how derived subjects in non-existential unaccusative constructions are able to ultimately raise to Spec-TP if they are unable to proceed to the clause internal phase edge first. I deal with each of these issues in the following section, as well as providing further evidence for the analysis.

5.3. *Further Issues*

In section 5.3.1 I discuss how the derived associate of UECs is able to have its Nominative Case feature checked, whilst in section 5.3.2 I discuss how derived subjects of non-existential unaccusative constructions can ultimately raise to Spec-TP. In section 5.3.3 I provide supporting evidence for the analysis using A'-movement.

5.3.1. *Case checking of the derived associate*

One question which remains to be answered is how the derived associate in non-progressive UECs is able to have its Nominative Case feature checked if it does not raise to the clause internal phase edge. To solve this issue I appeal to the second Phase Impenetrability Condition (PIC II, see Chomsky 2001:13), which is formalised as follows:[27,28]

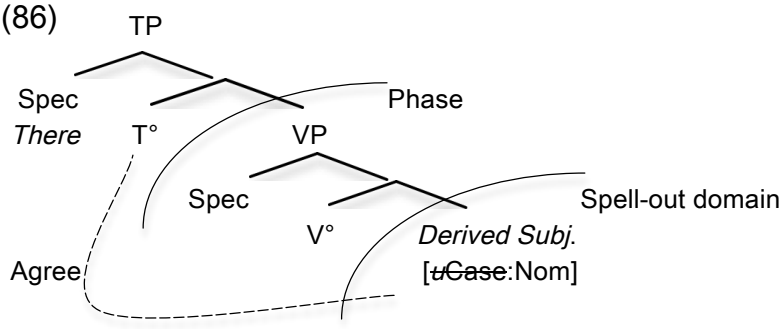
(85) Given structure $[_{ZP}$ Z $[_{XP}$ $[_{HP}$ α [H YP]]]], with H and Z the heads of phases – The domain of H is not accessible to operations at ZP; only H and its edge α are accessible to such operations.

[27] Note that until now I have not made any claims regarding the timing of spell out. For the remainder of this article I shall assume PIC II.

[28] In Harwood's (2013a) variable approach to phases, which I adopt in this paper, PIC II is also assumed.

The PIC II implies that the phasal complement of the first phase is not shipped off from the syntax until the second phase head is merged. Concretely, the phasal complement of the clause internal phase is not sent to Spell-Out until C° is merged. This implies that the entire clause internal phase is visible to T°, which is merged before C°. Therefore, if the derived associate of a non-progressive UEC remains as the complement of V°, it can still be probed by T° (provided that C° has not yet been merged), thereby checking the associate's Nominative Case feature.[29,30]

(86)



This explains how the derived associate of non-progressive UECs is able to have its Case feature checked, despite not having raised out of the clause internal phase. For the derived associate in progressive UECs I assume, similar to TECs, that the associate has its Case feature checked by T° on the clause internal phase edge.

In the following sub-section I discuss how the derived subject is ever able to raise to Spec-TP in non-existential unaccusative sentences.

5.3.2. *Raising to Spec-TP of the derived subject*

Appealing to the PIC II to solve the issue of how the derived associate in a UEC is able to have its Case feature checked, also allows us to solve another issue: if the derived subject of a non-progressive unaccusative is never able to raise to the phase edge, how is it able to then proceed to the canonical subject position of Spec-TP in non-existential constructions?

(87) *The guests* ***arrived*** *on time*.

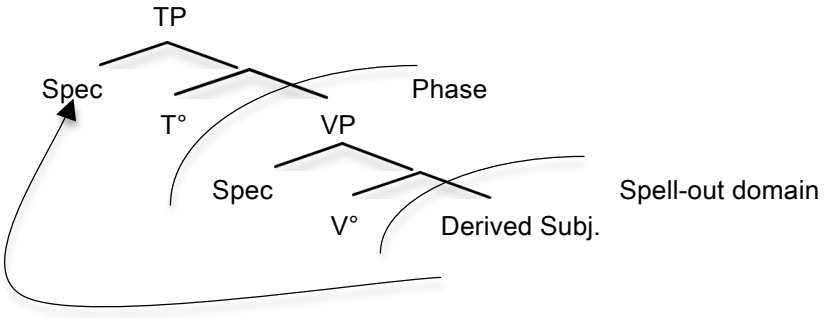
---

[29] An alternative option to the PIC II is to claim, as per Chomsky (2000, 2001), that unaccusatives only constitute weak phases which cannot be spelt out independently from the higher phase. As Legate (2003) has shown however, the clause internal phase of an unaccusative is always strong, on a par with that of transitive constructions.

[30] I do not assume a feature inheritance approach to phase theory (Chomsky 2005; Richards 2007a, 2012), in which case T° would be unable to probe inside the clause internal phase since T° would only receive its probing phi-features at the point at which C° is merged.

Since, under the PIC II, the derived subject can still be probed by T° up until the point that C° is merged, raising to the phase edge is not necessarily required in order for the subject to ultimately proceed to Spec-TP. T° can simply probe the derived subject in its base position, causing the subject to then raise, but skipping the initial phase edge specifier.

(88)



This explains how derived subjects of unaccusatives can ultimately raise to the canonical subject position. In the following section I provide supporting evidence for the analysis.

5.3.3. *Supporting evidence from A'-movement*

Here I provide supporting evidence from A'-movement for the claims made in section 5 regarding the distribution of the associate.

In the previous section I established that subjects do not necessarily have to proceed via the clause internal phase edge in order to reach the canonical subject position of Spec-TP, since the PIC II allows T° to probe the subject in its base position. In other words, under the PIC II A-movement in general does not automatically have to proceed through the clause internal phase edge (an observation also made by Richards 2012).[31] Note however, that A'-movement would generally be required to proceed via the phase edge, even under the PIC II, since items undergoing such movement must ultimately be probed by C°, and items within the lower phasal complement are not visible to C°, only the phase edge is. Therefore A'-movement should be required to proceed first via the phase edge.[32]

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[31] If A-movement does not have to necessarily proceed via the phase edge under the PIC II, why must associates in English TECs raise to this position, as established in section 5.1? I assume that if an item can move to the phase edge, it does so, because, under the PIC II, items on the phase edge can be probed either by a head within the higher phase, or the higher phase head itself, whereas items within the phasal complement can only be probed by a head within the higher phase, and not by the actual higher phase head itself. If we assume all syntactic items to be blind in that they cannot look ahead to know where they will have their features satisfied, then it is always in the best interests of each syntactic item to raise to the phase edge so as to maximise its range of potential probes.

[32] If derived subjects of unaccusatives are unable to raise to the clause internal phase edge itself, but the PIC II generally requires A'-movement to proceed via this phase edge, how is it that wh-movement of the subject is still permitted in unaccusative constructions?

This leads us to an interesting prediction. If expletive *there* is merged into Spec-TP, this would prevent the derived associate of a UEC from raising out of the phasal complement of the clause internal phase entirely, therefore A'-movement of the associate in these instances is expected to be wholly unacceptable since the associate fails to reach the phase edge. As note by Aissen (1975) and Hartmann (2005), such A'-extraction of the associate in UECs is indeed prohibited, exactly as predicted:

(89) * *How many guests have there arrived*?

This I believe to be quite convincing support for the analysis I have offered regarding the distribution of the associate.

Note, as a contrast, that if a progressive UEC is the only UEC in which the derived associate is able to occupy the clause internal phase edge, then we are led to predict that A'-movement of the associate should be allowed in these circumstances. That is, occupying the phase edge, the associate should be able to be probed by C° in this position, even with Spec-TP already filled by the expletive *there*, meaning A'-movement of the associate should be possible in progressive UECs. As originally noted in Aissen (1975), Moro (1997) and Hartmann (2005), such A'-extraction is indeed possible:

(90) *How many guests will there be arriving*?

This constitutes further evidence for the analysis I have offered.

Finally, since associates in English TECs also occupy the phase edge, we expect A'-extraction of these items to also be possible. Once again, to the benefit of the proposed analysis, this prediction is borne out:

(91) a. Who is there performing at the academy this week?
(McNally 1997:(81))

b. ?How many people were there arrested last night?

(i) *Which guests* ***arrived*** *on time*?

The answer here is simple. All wh-subjects are first required to undergo A-movement to the Spec-TP subject position for Case checking and to satisfy the EPP, before then undergoing A'-movement to Spec-CP (contra Chomsky's (2005) parallel movement). Therefore, due to the PIC II, a derived wh-subject of an unaccusative construction can be probed by T° in its base position as complement of V° (as established in the previous section), causing the subject to raise to Spec-TP, skipping the clause internal phase edge in the process. Once in Spec-TP, the wh-subject is then free to be probed by C° and raise to Spec-CP. So A'-movement of the subject appears to be one of the few instances in which A'-movement is not necessarily required to proceed via the phase edge.

To summarise this section, the clause internal phase can extend as far as the progressive aspectual layer when these phrases are projected onto the syntactic workspace. In TECs, associates raise to the clause internal phase edge of either Spec-vP_{prog} or Spec-vP (depending on whether progressive aspect is present or not) in order to have their Nominative Case features checked. This places the associate in pre-verbal position. The associate is then stranded in this position by merger of expletive *there* in Spec-TP. UECs however, lack vP and VoiceP, meaning that VP typically projects the clause internal phase. In this case, the derived associate is unable to raise from the complement of V° to the Spec-VP phase edge as this would constitute an anti-locality violation. Therefore the associate remains in its base, post-verbal position and is prevented from raising by merger of expletive *there*. The associate however, still has its Nominative Case feature checked by virtue of T° being able to probe inside the spell-out domain of the lower phase (in accordance with PIC II). In progressive UECs on the other hand, the progressive aspectual layer extends the clause internal phase once again to vP_{prog}. In this case, the associate is able to raise to the pre-verbal position of Spec-vP_{prog}, as this does not constitute an anti-locality violation. This analysis was supported with evidence involving restrictions on A'-movement of the associate in UECs and the lack of such restrictions in TECs and progressive UECs.

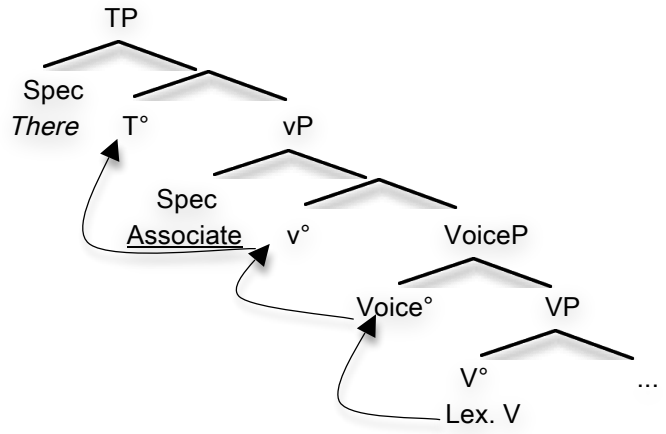
This concludes discussion of the distribution of the associate in English existential constructions. In the next section I move beyond Standard English and explore the cross-linguistic consequences of the analysis I presented in section 4 for the aspectual restrictions on existential constructions.

6. *Discussion: beyond English*

As previously stated, this paper assumes a hybrid approach to verbal inflection (Bowers 2003; Lasnik 1995) in which verbs may receive inflections in one of two ways: they either undergo overt head raising in the syntax, or they remain in situ and are merged together with the relevant inflectional affix at PF by virtue of the two elements being linearly adjacent to one another. In English, the lexical verb exhibits the latter of these two options, which I have used to explain the aspectual restrictions on English existential constructions. That is, the aspectual restrictions on English existentials can be understood through a complex interplay between the distribution of the associate, and the requirement that the lexical verb be string adjacent to its inflectional affix. In the case of TECs, the associate sits in a pre-verbal position which intervenes for the purposes of finite, infinitival and perfect aspectual morphology, but not for progressive and passive morphology. In UECs however, the associate surfaces post-verbally, meaning it does not intervene for any kinds of inflection.

This leads us to an interesting cross-linguistic prediction: languages which exhibit overt raising of the lexical verb should exhibit fully productive TECs. That is, verbs which overtly raise for inflectional purposes do not fall victim to interveners such as associates. Therefore, if a language exhibits overt raising of the lexical verb, then it should be able to raise within the syntax beyond the pre-verbal associate in order to reach the higher inflections:

(92)



In other words, if the lexical verb raises overtly in the syntax, the distribution of the associate should not have an effect on which inflectional affixes the lexical verb can combine with. Thereby, fully productive TECs should be permitted in languages which exhibit such overt movement of the lexical verb.

Whilst an exhaustive study of all the world's languages is yet to be undertaken, this generalisation seems to hold of the small cross-section of (mainly) European languages that have been extensively discussed in the existential literature. Bobaljik & Jonas (1996), Jonas (1996), Koeneman & Neeleman (2001) and Vikner (1990, 1995) have all observed that Icelandic, Yiddish, Faroese I, German and Dutch simultaneously exhibit fully productive TECs and overt V-to-T movement,[33] whilst English, Danish, Swedish, Faroese II and Afrikaans exhibit no overt V-to-T movement and either lack TECs altogether, or exhibit severely restricted forms of these constructions. In other words, fully productive TECs seem to only be found in those languages that exhibit overt V-to-T movement, suggesting that such movement is indeed a determining factor as to whether languages permit fully productive TECs or not.

The only apparent exception to the generalisation I have made is that of dialectal Belfast English (BE) which, like Standard English, does not exhibit V-to-T movement (cf. (93)), but which, as noted by Henry & Cottell (2007) (H&C), allows for much more productive TECs (cf. (94)):

[33] It has been argued that Dutch does not constitute overt V-to-T. See Haegeman (2001) however, for arguments of why Dutch allows such movement.

(93) a. (BE:*) *Went a linguist to that conference*? (H&C:(17))
b. (BE:*) *She read not the book*. (H&C:(19))
c. (BE:*) *They drank never coffee*. (H&C:(21))

(94) a. (BE:✓) *There have lots of people* ***eaten*** *their lunch*. (H&C:(4))
b. (BE:✓) *There shouldn't anybody* ***say*** *that*. (H&C:(2))

At first glance, this is a direct contradiction of the cross-linguistic generalisation I made above, namely that fully productive TECs are restricted only to those languages which allow overt raising of the lexical verb. However, upon closer inspection, the BE data is not actually problematic for the analysis I propose, and, if anything, actually provides fairly strong support for the claim I have made.

H&C observe that the associate in BE TECs has a much freer distribution than its Standard English counterpart. That is, the associate may optionally precede any auxiliary except for the finite auxiliary:

(95) *There (*lots of students) should (lots of students) have (lots of students) been (lots of students) taking the classes*. (H&C:(3))

Whilst it is not entirely clear why the BE associate has such a freer distribution (though see H&C for an initial analysis), it definitely appears to occupy positions higher than Spec-vP_{prog}. The fact that the associate can precede *been* suggests it can optionally raise somewhere beyond Perf°, and the fact that it can precede infinitival *have* suggests that the associate can also raise beyond Inf°. The only position the associate cannot actually occupy is that of the canonical subject position, Spec-TP, as evidenced by the fact that the associate cannot precede the finite auxiliary. This is obviously expected if Spec-TP is already filled by *there*, as standardly claimed.

If we assume that the lexical verb in BE remains in situ, similar to Standard English, and is merged together at PF with the relevant inflectional affix by virtue of linear adjacency, then the aspectual data of BE TECs easily falls out: the associate may optionally precede Perf° and Inf°, the locus of perfect and infinitival inflections:

(96) There T° (Associate) Inf° (Associate) Perf° (Associate) **Lex V.**

This implies that at linearization, the associate does not necessarily always intervene between the lexical verb and perfect or infinitival inflectional affixes:

(97) There T° (Associate) -Ø (Associate) -EN (Associate) **Lex V.**

Therefore, the lexical verb may merge together at PF with perfect or infinitival inflections, since the two elements can be linearly adjacent to one another:

(98) There have lots of people –EN + **eaten** their lunch already
= *There have lots of people eaten their lunch already*.

(99) There shouldn't anybody –∅ + **say** that.
= *There shouldn't anybody say that*.

Since the associate never raises to Spec-TP, however, it will always intervene for the purposes of finite inflections.

(100)There –TENSE associate **Lex V.**

Therefore we expect BE TECs to be ungrammatical if the lexical verb is finite. Indeed, H&C observe this to be exactly the case: simple finite TECs are ungrammatical in BE, irrespective of whether the finite lexical verb precedes or follows the associate:

(101)a. (BE:*) *There read nobody the book*. (H&C:(23))
b. (BE:*) *There lots of people attended those lectures*. (H&C:(32))

Indeed, H&C arrive at essentially the same analysis for simple finite TECs in BE and provide further support for this claim by observing that simple finite TECs in BE are grammatical if they are rescued with *do*-support:[34]

(102)a. (BE:✓) *There did lots of students read that book*. (H&C:(112))
b. (BE:✓) *There did somebody ask that question already*. (H&C:(113))

So whilst the freer distribution of the associate raises an interesting issue, the existence of (almost fully) productive TECs in BE is not actually a problem for the analysis I offer, and in fact provides even stronger support for the account presented in this paper.

Returning to the generalisation made at the start of this section, namely that fully productive TECs are restricted only to those languages which exhibit over V-to-T movement, it is worth noting that just because a language exhibits such movement, does not mean it will necessarily exhibit fully productive TECs. This is indeed the case for French, which apparently lacks TECs altogether, despite exhibiting overt V-to-T movement.

[34] In light of this, it is remarkable that Standard English does not similarly exhibit the option of *do*-support in simple finite TECs as well. This is a problem for the analysis I propose and one which I am unfortunately currently unable to solve.

(103) * *Il* *a* *un* *homme* *mangé* *une* *pomme*
there has a man eaten an apple
(Koeneman & Neeleman 2001:(3a))

I do not claim that whether a language exhibits overt V-to-T movement or not is the only factor in accounting for the cross-linguistic distribution of TECs, merely that it is one important contributing factor. Many other elements may play a role, such as the position in which *there* is merged, and also the distribution of the associate, which may differ quite drastically cross-linguistically.[35] Therefore, a thorough cross-linguistic study of the behaviour of TECs is beyond the scope of this paper, though the results presented in this section suggest that the analysis I have offered may be on the right track. It is also worth noting that many of the languages mentioned above, irrespective of whether they exhibit overt V-to-T movement or not, or fully productive TECs, demonstrate fully productive existential constructions if the associate appears in post-verbal position, exactly as expected under the analysis I offer. This has already been illustrated for English throughout this paper, and is illustrated below for French:

(104) *Il* *est* *arrivé* *un* *homme*
there is arrived a man (Koeneman & Neeleman 2001:(3)b)

This I find to be quite an encouraging observation in favour of the analysis I have proposed.

7. *Summary and Conclusion*

This paper set out to explain the presence of aspectual restrictions on TECs in Standard English and the absence of such restrictions on UECs. I have claimed this aspectual restriction to result from an interplay between the distribution of the associate and the requirement that lexical verbs in English remain in situ, only merging together at PF with their intended inflectional affix by virtue of the two elements being linearly adjacent. In Standard English TECs the associate sits in a pre-verbal position which intervenes between the lexical verb and perfect, infinitival and finite inflections, therefore blocking merger of these items at PF, but not for the purposes of progressive and passive inflections, which the associate has risen beyond. In UECs on the other hand, the associate sits in post-verbal position and so does not intervene for any types of verbal inflection.

In order to explain the distribution of the associate, I claimed the TEC pre-verbal associate is stranded on the clause internal phase edge which, in

[35] See Harwood (2013a), for instance, for discussion on how the size of the clause internal phase may vary cross-linguistically, an important contributing factor in determining the distribution of the associate.

English, can extend as far as the progressive aspectual layer. In UECs however, the clause internal phase consists solely of VP, to the edge of which the derived associate is unable to raise as this would constitute an anti-locality violation. Therefore the associate is stranded in its base, post-verbal position. Compelling evidence for this analysis was presented involving certain restrictions on A'-extraction of the associate.

Moving beyond English, I claimed that if a language exhibits overt raising of the lexical verb, then the associate would not matter as an intervener, meaning the lexical verb would be free to receive all kinds of inflection. Therefore, fully productive TECs should be restricted to those languages which exhibit overt lexical verb raising (though this does not imply that all languages with overt V-to-T movement will exhibit fully productive TECs). A brief cross-linguistic study of the languages most cited in the existential literature reveal this generalisation to be true. Furthermore, many of the cited languages, irrespective of whether they exhibit overt V-to-T movement or not, demonstrate fully productive existential constructions when the associate sits in post-verbal position. These cross-linguistic observations support my analysis.

The only apparent counter-example cited in the data is that of Belfast English, which displays no overt V-to-T movement, but exhibits much more productive TECs than Standard English. I argued this to be on account of the much freer distribution of the associate, which can occur higher than in Standard English and so does not necessarily intervene for the purposes of perfect and infinitival morphology. Because the associate can never raise to Spec-TP however, it will always intervene for finite inflections, explaining why simple finite TECs are still disallowed in Belfast English. So the Belfast English data, rather than acting as a counter-example, actually provides strong evidence for the claim made in this paper.

Nevertheless, a more thorough study of each individual language is required before any definite conclusions can be drawn, since whether a language displays overt V-to-T movement or not is not the only factor involved in determining whether a language should exhibit fully productive TECs. As was demonstrated with the Belfast English data, the distribution of the associate can vary quite drastically cross-linguistically, which has an important effect on the extent to which TECs are productive in certain languages. Other contributing factors may be a cross-linguistic difference on where exactly expletive *there* is merged, and also the position of inflections within the functional hierarchy. Therefore, we must carefully consider how each of these factors interact within each language in isolation before any outright conclusions can be drawn. I leave this as a point for further investigation.

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