

# Where *there* is, and why\*

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## 1 Introduction

### Background:

Generative linguistics has long been interested in “existential” *there*, as in (1a) and (2a)

→ also called “expletive” or “presentational” *there*.

(Allan, 1971; Jenkins, 1972, 1975; Milsark, 1974, 1977, a.o.)

- (1) a. There are unicorns (in the garden).  
b. Unicorns are in the garden.

- (2) a. There appeared a light on the horizon.  
b. A light appeared on the horizon.

- The distribution of *there* gives rise to a number of **questions**:

... for **syntax**:

- Why does *there* occur, given that it is not obligatory?
- What is the syntactic position of *there*? Where is its “associate”?

... for **semantics**:

- How does *there* contribute to existential interpretations?

... and for the **typology** of existentials:

- How do *there* sentences relate to existential constructions in other languages?

- Different answers to these questions have given rise to two main types of analysis:

1. The **expletive analysis** of *there* (Chomsky, 1995, a.o.)
2. The **inverted predicate analysis** of *there* (Hoekstra and Mulder, 1990; Freeze, 1992; Moro, 1997; Belvin and Dikken, 1997, a.o.)

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### An empirical problem:

- Existing syntactic analyses have mostly focused narrowly on *there* in **existential** and **unaccusative** clauses.
  - Often overlooked: *there* in **progressives**, including **transitives and unergatives**.
- (3) a. There are children laughing.  
b. \*There laughed children. / \*There children laughed.
- (4) a. There are people reading the handout.  
b. \*There read people the handout. / \*There people read the handout.
- Also sometimes overlooked: *there* with stage-level (but not individual-level) adjectives.
- (5) a. There are taxis available.  
b. \*There are taxis yellow.
- The expletive and inverted predicate analyses cannot account for these examples.
  - Approaches that do address the grammaticality of (4) (e.g. Deal, 2009), encounter other problems, and cannot straightforwardly account for (5).

**Our goal today:** a new approach to *there*, framed in both syntactic and semantic terms.

- *There* is **not an expletive**.
- It is inserted low (as in Deal, 2009) and is sensitive to not only the argument structure but also the **temporal/event structure** of its complement.

## 2 Setting up the empirical problem: progressive *there*

Minimalist syntactic theory has focused on *there* in existentials and with unaccusatives.

**Often overlooked:** *there* with transitives and unergatives, possible only in the **progressive**.

- (6) Progressive *there* with transitive verbs:
- There were children eating cake.
  - There are people telling stories outside.
  - There were cats chasing each other.
  - There are thousands of satellites orbiting the earth.
- (7) Progressive *there* with unergative verbs:
- There are children playing outside.
  - There are disasters happening everywhere.
  - There were dogs running around.
- (8) Progressive *there* with unaccusative verbs:
- There was a strange car arriving.
  - There was a tree growing in the yard.
  - There is a solution emerging.

## 2.1 Against a reduced relative analysis

- Progressive (and passive) *there* sentences have sometimes been dismissed as reduced relatives, as in (9), i.e. not true monoclausal *there* sentences.

(9) There is a person (**who is**) standing on a table.

- Against this, Deal (2009) (citing Rajesh Bhatt p.c.) observes that a reduced relative source would not generate all available word orders:

– Reduced relatives always precede full relatives DP-internally:

- (10) a. The person [standing on a table] [who I met yesterday] is tall.  
b. \*The person [who I met yesterday] [standing on a table] is tall.<sup>1</sup>

– The same order is not required in relevant *there* clauses:

(11) There is a person [who I met yesterday] [standing on a table].

– In (11), and other examples like it, the progressive participle **cannot** have a reduced relative source.

This provides clear evidence that a non-reduced-relative parse must be available to other progressive (and passive) *there* sentences, such as (9).

## 2.2 The theoretical problem of progressive *there*

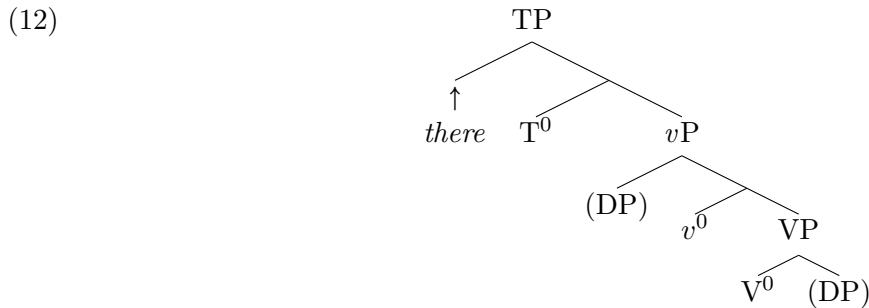
- Any theory of *there* should be able to account for its occurrence in progressive clauses, ideally unifying these with other contexts for *there*.
- But the most widely adopted theories of *there* fail in this regard:
  1. The **expletive analysis** of *there* (Chomsky, 1995, a.o.) **overgenerates**
  2. The **inverted predicate analysis** of *there* (Hoekstra and Mulder, 1990; Freeze, 1992; Moro, 1997; Belvin and Dikken, 1997, a.o.) **undergenerates**
- Both focus on a subset of the contexts in which *there* occurs. . .  
. . . and consequently fail to account for the full range of *there*'s occurrence.

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<sup>1</sup>This string is grammatical, but on a different parse: one where [standing on a table] occurs as a modifier inside the full relative clause, rather than as an independent modifier of the noun [person].

### The expletive analysis: too permissive

- By far the most widely assumed position is that *there* is a “pure expletive”.
- Chomsky (1995): *there* merges to Spec-TP to satisfy EPP:



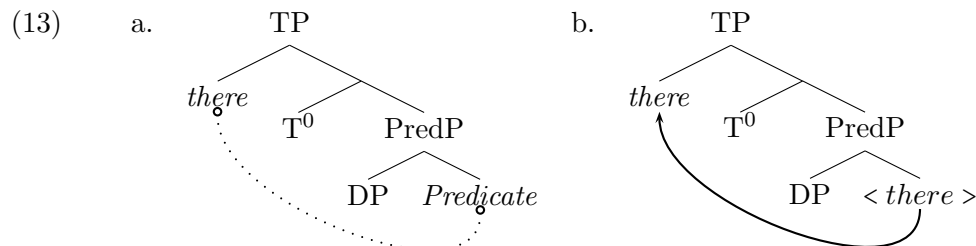
*Designed to account for: there* with unaccusatives (and perhaps passives).

*Problem:* overgenerates.

- on the expletive analysis it is difficult to rule in progressive *there* while still ruling out non-progressive transitive and unergative cases.

### The inverted predicate analysis: too restrictive

- In many (perhaps most) languages, existentials require (inverted) locative syntax.
- From this comparative perspective, English existential syntax is very unusual: expletive subject, and no inversion.
- The inverted predicate analysis aims to resolve this oddity by proposing that *there* itself is a (perhaps locative) predicate that inverts.
- Basic idea:
  - *there* originates as the clausal predicate (possibly an expletive predicate).
  - Inverts to subject position as part of existential syntax (given cross-linguistic association of existentials with inverted locative clauses, Freeze, 1992), or to allow a weak indefinite subject to remain low.
- Represented schematically: *there* establishes an abstract relationship with a (covert or overt) predicate (13a), or *there* is itself an (expletive) predicate, which inverts to subject position (13b).



- Less widely adopted than the expletive analysis → but more popular in work that focuses specifically on existentials: Freeze (1992), Moro (1997), Hoekstra and Mulder (1990), Belvin and Dikken (1997).

*Designed to account for:* *there* in existential and copular clauses.

*Problem:* undergenerates.

- Cannot easily account for *there* in unaccusatives, requires that passive and progressive cases be reduced relatives (as in Moro, 1997)

### 2.3 Towards a better account?

- Clearly we do want to unify the contexts in which *there* is possible → and more directly than by reference to so-called “presentational” contexts.
- To do this we need to understand not only the problematic progressive contexts, but also more about the copular and unaccusative clauses where *there* is usually discussed.
- **Next step:** Describe all contexts for *there*, to set the stage for a new analysis.

## 3 The full distribution of *there*

For the purposes of description, useful to divide the contexts for *there* into five main types:

1. **Existentials / locatives.**
2. **Stage-level adjectives.**
3. Simple (non-change-of-state) **unaccusatives.**
4. **Passives.**
5. **Progressives** (including unergatives and transitives).

In all these contexts:

- *There* occupies the canonical subject position of the clause.
- Finite agreement (when present) is with a lower “associate” DP.<sup>2</sup>
- The “associate” is subject to a *definiteness effect* → restricted to “weak indefinites” (Milsark, 1974, 1977).<sup>3</sup>

**Remainder of this section:** More detail on each of the contexts above, and the differences between them.

Generalizations here are largely drawn from Milsark (1974), with some addition from the corpus-based study of Breivik (1990).

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<sup>2</sup>Though note that for many contemporary speakers, agreement in sentences with *there* is optional, alternating with default third-singular inflection.

<sup>3</sup>There are well-known exceptions to the definiteness effect. We set these aside for the purposes of the discussion here. We also do not discuss *there* in “outside verbals”: these are sentences where the associate occurs in what appears to be a displaced right-peripheral position, and allow *there* even with (simple) unergatives and transitives (Milsark, 1974, 1977, et seq.). See Deal (2009) for recent discussion.

### 3.1 Existentials (and Locatives)

- Existentials are often regarded as the core context for *there*.

- (14)
- There are mountains in BC.
  - There are papers on my desk.
  - There is a problem with your analysis.
  - There are solutions.

- Existential *there* clauses often include a post-associate locative phrase, sometimes regarded as the main predicate of the clause.
- This locative element is optional in English *there* existentials (as in (14d)), in contrast to many other languages where existentials are only possible with an overt (and inverted) locative predicate (Freeze, 1992, a.o.).

### 3.2 Adjectival predicates (but not all of them)

- *there* is possible in some adjectival copular clauses.
- Broadly speaking, possible with **stage-level** predicates.

- (15)
- There are firemen available.
  - There are children asleep.
  - There are some appetizers ready.

- *there* is ungrammatical with individual level predicates. . . .

- (16)
- \*There are firemen tall.
  - \*There are children happy.
  - \*There are books interesting.

- . . . including all nominal predicates (18).<sup>4</sup>

- (17)
- \*There is no one an island.
  - \*There are oranges fruit.
  - \*There can be men nurses.

### 3.3 Unaccusatives (but not all of them)

- In modern colloquial English, *there* with unaccusatives is extremely rare, as noted in the corpus study of Breivik (1990), but for most speakers it is at least acceptable (if not produced) with some simple unaccusatives.

- (18)
- There arrived a strange car.
  - There grew a tree in that forest.
  - There emerged a solution.

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<sup>4</sup>To the extent that the examples in (17) are acceptable, it appears to be as Noun-Noun compounds in existential clauses.

- Note that the associate in (18) surfaces post-verbally (i.e. in its base position).<sup>5</sup>
- *there* is not possible at all with “change of state” unaccusatives (Levin, 1993; Deal, 2009)...

- (19)
- \*There slowed a strange car.
  - \*There fell a tree in that forest.
  - \*There melted an ice cube.

- ...and *there* is completely impossible with simple transitives and unergatives:

- (20)
- \*There ate children cake.
  - \*There has someone told a story.
  - \*There will dance a performer.

### 3.4 Passives (all of them)

- *there* is also possible in passive clauses, as in (21):

- (21)
- There were cakes eaten.
  - There were stories told.
  - There were enormous trees felled.

- Note that in contrast to unaccusative *there*, with passive *there* the associate is in a **derived** (i.e. pre-verbal) position.

### 3.5 Progressives (all of them)

- Perhaps least frequently discussed is the occurrence of *there* in **progressive** clauses—including those with **transitive** and **unergative** verbs.

- (22)
- There were children eating cake.
  - There are people telling stories outside.
  - There were cats chasing each other.
  - There are thousands of satellites orbiting the earth.

- (23)
- There are children playing outside.
  - There are disasters happening everywhere.
  - There were dogs running around.

- (24)
- There was a strange car arriving.
  - There was a tree growing in the yard.
  - There is a solution emerging.

- Again, note that the associate is in a **derived** position, at least with unaccusative verbs as in (24).

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<sup>5</sup>This has been used as evidence for the unaccusative hypothesis, dating at least to Perlmutter (1978).

## 4 Proposal: unifying the distribution of *there*

As discussed in section 2, the most widely-adopted approaches to *there* have focused on a **subset** of *there*'s distribution.

- expletive analysis consequently **overgenerates**
- inverted predicate analysis consequently **undergenerates**

**Can we do better?**

**A starting point:** Deal (2009)

- Focusing on the fact that *there* is possible only with a subset of unaccusative verbs, Deal (2009) proposes a more successful analysis of *there*, proposing that *there* can merge to **any empty *v*P specifier position**.
  - Briefly addresses progressive (and passive) *there*: suggests that *there* occupies the specifier of a *v*P shell above progressive Asp<sup>0</sup>, associated with the auxiliary.
  - This requires that auxiliaries be syntactically projected as *v*P s, contra much work on the topic: Cowper (2010); Bjorkman (2011, 2014, a.o.).
  - Also doesn't distinguish obviously between grammatical and ungrammatical contexts for *there* with adjectival predicates.

**Moving forward:** Can we retain the advantages of Deal's account of unaccusative *there*, while better accounting for the split in adjectival predicates, and with better-supported assumptions about auxiliary syntax?

**Addressing the data in stages:**

1. **Existentials and stage-level adjectives**
  - Conclusion: *there* is sensitive to the **temporal/event structure** of its complement.
2. **Passives and unaccusatives**
  - Conclusion: *there* is sensitive to the **argument structure** of its complement.
3. **Progressives**, including transitives and unergatives
  - Illustrating the interaction of argument and temporal/event structure.
4. **The definiteness effect**
  - Excluding "spurious" *there* via its quantificational requirements.
5. **Ruling out change-of-state unaccusatives**
  - Requiring a "simple" event structure.



## 4.1 Existentials and stage-level adjectives: the role of temporal structure

**Goal:** allow (25) while excluding (26).

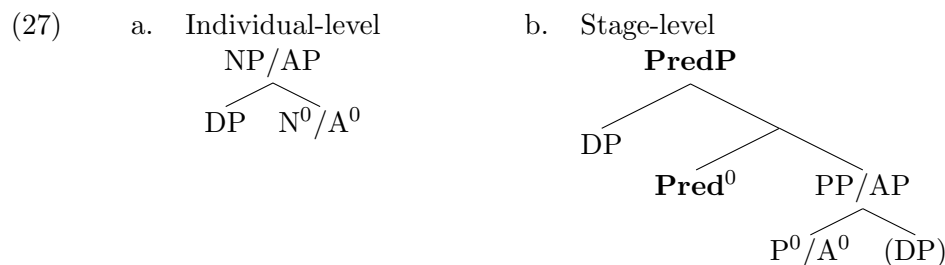
- (25) a. There is a unicorn in the garden.  
 b. There are firemen available/asleep/in the hall.

- (26) a. \*There are firemen tall/friendly/famous.  
 b. \*There are firemen emergency personnel.

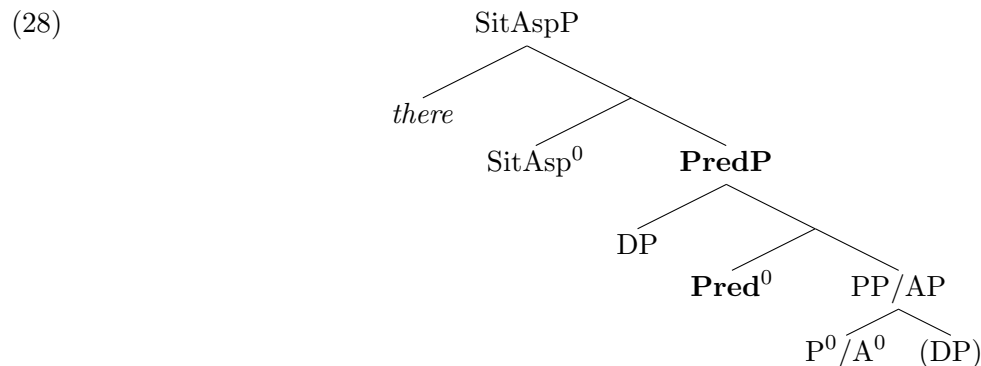
**Generalization:** *there* is possible with stage-level copular predicates, but not with individual-level predicates.

**Our proposal:** the impossibility of *there* in (26) has to do with an **absence of structure** in individual-level predicates, specifically temporal/event structure.

- **Main idea:** individual-level predicates combine **directly** with an argument, while stage-level predication is **mediated**, involving *more* structure (cf. Welch, 2011).
- The mediating head—which we label  $\text{Pred}^0$ —not only syntactically introduces the subject of predication, but semantically introduces an eventuality.<sup>6</sup>



- It is the semantic presence of the eventuality that allows *there* to merge, because *there* must bind an eventuality.
- Specifically: we propose that *there* merges with **inner (i.e. situation) aspect**, which we take to be the next higher head.



- It is the absence of an eventuality argument in individual-level predication that prevents *there* from merging, via a ban on vacuous quantification.<sup>7</sup>

<sup>6</sup>Alternatively,  $\text{Pred}^0$  could simply introduce a temporal interval.

<sup>7</sup>The distinction between individual and stage level predicates is often encoded in the denotation of predicates in semantic work, including the work of Carlson (1977), Diesing (1992), and Kratzer (1995), among many others.

## 4.2 Passives and unaccusatives: the role of argument structure

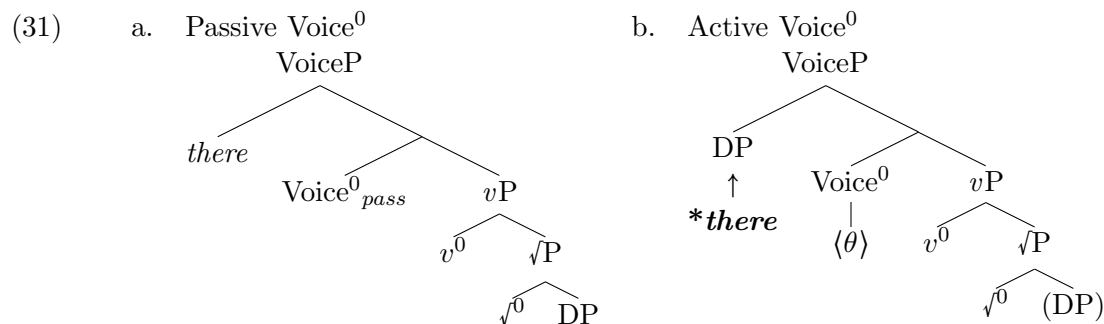
**Goal:** Allow passives and simple unaccusatives as in (29) while excluding simple transitives and unergatives as in (30).

- (29) a. There has been a cake eaten.  
 b. There will arrive a strange car.

- (30) a. \*There will a child laugh.  
 b. \*There have children eaten cake.

- We assume that the verbalizing head  $v$ , like  $\text{Pred}^0$  above, introduces a temporal variable, so all verbal clauses have the minimal temporal structure required to accommodate *there*.
- Some additional factor must be involved in ruling out (30).

**Generalization:** *there* is possible with verbal predicates *only* when all DP arguments have been saturated by the time  $\text{Voice}^0$  has merged.



- The crucial property of passive  $\text{Voice}^0$  (31a) is that no DP arguments remain unsaturated.<sup>8</sup>
- The active  $\text{Voice}^0$  head shown in (31b), by contrast, requires a DP external argument to be merged in its specifier, preventing the merge of *there*.

### What about unaccusatives?

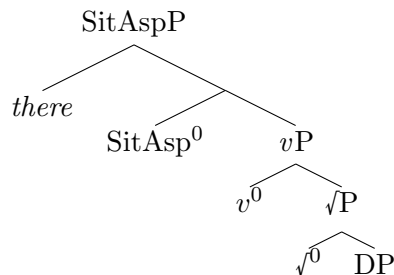
- Unaccusative clauses might have a  $\text{Voice}^0$  projection similar to that in passive clauses, in which case *there* would merge as in (31a).
- Alternatively, it has also been assumed that unaccusative clauses lack Voice altogether, which would give them a structure like (32) (again associating *there* with situation aspect).

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Indeed, Diesing (1992) assumes that the subjects of individual-level predicates are in fact merged *higher* than their stage-level counterparts, to keep them out of the scope of existential closure. If we associate existential closure with something like phase-based locality domains, however, then the radically curtailed structure in (28a) may provide a different explanation: if no inner phase is projected with individual level predicates (if, for example, the next head merged would be  $T^0$ ), then there is no lower domain in which existential closure would apply.

<sup>8</sup>We follow the standard view that passive  $\text{Voice}^0$  itself saturates the external argument position, giving the familiar implicit agent interpretation.

(32)



Either way, in passive and unaccusative clauses, all DP arguments are saturated **below** the head in whose specifier *there* merges.

### 4.3 Progressives: the interaction of argument and temporal structure

**Goal:** Continue to exclude *there* in simple transitives and unergatives, while allowing it in progressives.

- (33) a. There are raccoons eating garbage on the patio.  
b. There is a robin singing in the cherry tree.

**Our proposal:** the progressive recreates the **semantic** structure required by *there*.

→ it introduces a *temporal* variable that *there* can bind, after all individual arguments have been saturated (i.e. in VoiceP).

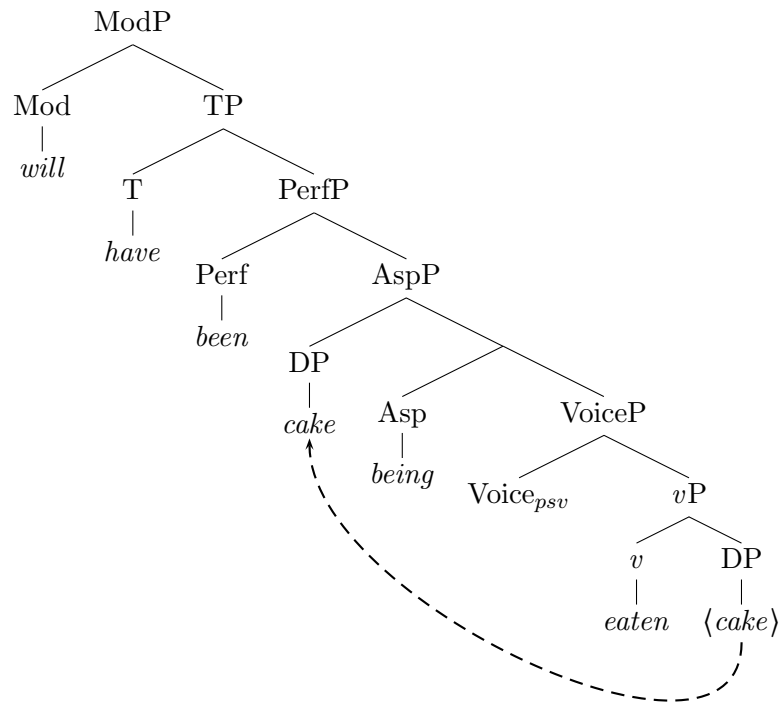
**Where is *there* in the progressive? Where is the associate?**

Contrary to appearances, it is not the case that progressive Asp<sup>0</sup> adds a specifier position that can host *there*, while the associate remains in Spec-VoiceP.

We can see this by looking at word order in complex cases:

- Consider the maximal auxiliary sequence in (34a), and some less complex ones in (34b-d):
- (34) a. There will have been **cake** being eaten. (modal + T + perf + prog + psv)  
b. There must have been raccoons digging in the garden. (modal + T + perf + prog)  
c. There might be birds nesting in the cherry tree. (modal + T + prog)  
d. There have been lots of insects swarming outside today. (T + perf + prog)
- Following Cowper (2010) and Harwood (2014), a.o., the position of *being* in (34a) is the progressive head (Asp<sup>0</sup>), while *been* occupies Perf<sup>0</sup>.
  - All the verbal elements that precede the associate occupy positions above AspP, and the (participial) main verb, we assume, appears no higher than Voice<sup>0</sup>.
  - The associate can therefore be no lower and no higher than Spec-Asp.

(35)



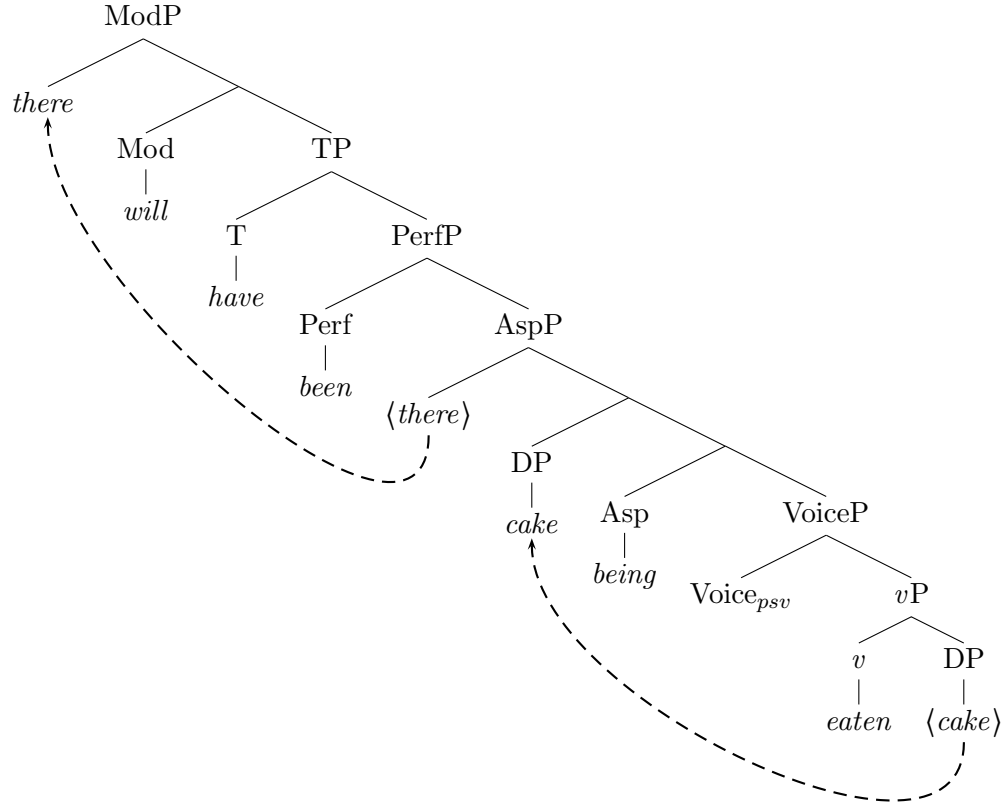
So where is *there*?

- For both Deal and Harwood *there* is in the specifier of a  $vP$  shell above  $Asp^0$ , corresponding to the auxiliary that ends up pronounced as *been* (for us,  $Perf^0$ ).
- If we reject a  $vP$  shell analysis of auxiliary BE (which there are very good reasons to do), we can't adopt this part of their analysis.<sup>9</sup>
- So *there* should merge no higher than Spec-Asp, because it needs to be sensitive to the presence/absence of progressive aspect.
- So that means that *both there* and the associate—here, *cake*—are in Spec-Asp → a doubly-filled specifier must therefore be possible.

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<sup>9</sup>One obvious problem is that Perf is absent from the structure in (34c), but *there* can occur, but see Cowper (2010) and Bjorkman (2011, 2014) for broader arguments against the syntactic projection of auxiliaries in VP or  $vP$  shells.

(36)



**But wait:** what about simple transitives and unergatives?

- Our account of *there*'s ungrammaticality with transitives and unergatives rested on the impossibility of merging *there* to a filled SpecVoiceP.
- Given (36), why can't *there* merge in a higher specifier in VoiceP, with the external argument in the lower specifier being the associate?
- In other words, why are the sentences in (37) ungrammatical, regardless of the order of the verb and the associate?

- (37) a. \*There destroyed a raccoon my flowerbed.  
b. \*There a raccoon destroyed my flowerbed.

**Two possible answers:**

1. Suppose that in general, a head can host only one **externally merged** specifier. *There* can thus merge with a head that has no other specifier, or with a head whose first specifier moved to that position from lower in the structure.
  2. Refine the argument-structure requirement of *there*, so that all DP arguments must be saturated in the **complement** of the head with which *there* merges. Any DP in the specifier of that head must thus have saturated an argument position lower in the tree.
- Either of these approaches will allow *there* to occupy a second specifier of  $\text{Asp}^0$ , while still ruling out *there* as a second specifier of transitive/unergative  $\text{Voice}^0$ .

#### 4.4 The definiteness effect

Exactly what is the relation between *there* and the associate?

- Standard expletive account attributes the relation to case requirements: associate receives case by transmission from *there*.
- This doesn't explain why the associate is absolutely required. What's wrong with (38)?

(38) \*There was snowing heavily all day long.  
(cf. There was snow falling heavily all day long.)

- It also doesn't explain the definiteness effect. If anything, definite DPs need case more than indefinite ones do.

**Proposal:** *there* contains an operator that must (existentially) bind a variable. Weak indefinites, but not strong indefinites or definites, contain a variable of the appropriate sort. This is reminiscent of Milsark's (1974: 177) Exist rule, and the claim by Jenkins (1972) that *there* is an existential operator.

- (38) is ruled out by the prohibition against vacuous quantification.

**Parallel with temporal requirement:** the requirement for an associate resembles the requirement for an eventuality argument.

*there* binds **two variables**: the individual variable in the weak indefinite associate, and a temporal or eventuality argument.

**Alongside the definiteness effect, we have an “eventuality” effect.**

#### 4.5 Change-of-state unaccusatives: a final complexity

**Goal:** explain the contrast between (39) and (40).

(39) There arrived/appeared/lurked a strange car.

(40) \*There melted/fell/vaporized a car.

**Generalization:** causative (“change-of-state”) unaccusatives do not allow *there*.

**Main idea:** following Deal (2009), this is because they have an extra event argument—a “causing” event.

- For Deal (2009), this higher event argument occupies the specifier where *there* would normally merge, blocking insertion of *there*.
- If we adopt the view that *there* is impossible in transitives and unergatives because a single phrase cannot support two *externally* merged specifiers, we can simply adopt Deal's account.
- An alternative semantic explanation might appeal to multiple event variables with which *there* interacts: if *there* is unable to bind the variable in the weak indefinite internal argument across *two* intervening event variables.

## 4.6 Summary: where is *there*?

Where does *there* originate?

- With stage-level predicates, merges in the specifier of situation aspect, SitAsp<sup>0</sup>.
- With passive (non-progressive) predicates, merges in specifier of Voice<sup>0</sup>.
- With progressive predicates, merges in specifier of Asp<sup>0</sup>.
- (With unaccusative predicates, also in specifier of SitAsp<sup>0</sup>.)

Where does the associate surface?

- In stage-level predicates, *in situ*.
- In simple unaccusatives, *in situ*.
- In passives, in the specifier of Voice<sup>0</sup>, where *there* merges.
- In progressives, in the specifier of Asp<sup>0</sup>, where *there* merges.

**Pulling it all together:** descriptively, *there* merges as a specifier of the highest head in the lower phase of the clause (assuming a dynamic approach to phases: Bobaljik and Wurmbrand, 2005; Wurmbrand, 2014; Wurmbrand (2013); a.o.)

The upper bound of the lower phase is Asp<sup>0</sup>, so that's the highest *there* can merge. The lower bound of the upper phase is Perf<sup>0</sup>, so *there* will always merge below that.

Once *there* has merged, no opportunity for further aspectual or argument-structural heads to occur: the phase has ended.

## 5 Conclusion

Existential *there* has (at least) important properties:

- It can merge only with a constituent containing an eventuality variable.
- It can merge only with a constituent all of whose phrasal arguments are saturated.
- It can merge only with a constituent containing an individual variable (i.e. a weak indefinite).

**Two main points to take away:**

1. *there* is **not an expletive**
2. in addition to the well-studied definiteness effect, *there* exhibits an **eventuality requirement**: requires **exactly one** open temporal or eventuality argument.

**Remaining issues:**

- Formalizing the semantics of *there*.
- Investigating the role of variable phasehood in existential closure.
- Explaining associate movement in passives and progressives.
- Distinguishing unaccusatives from other cases: a change in progress?

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