

# CAS LX 522 Syntax I

# 11

The DP  
(6-7ish)

## Determiners vs. adjectives

- There are a number of things that can come before nouns in a noun phrase:

- |                         |                         |
|-------------------------|-------------------------|
| 1) fluffy bunny         | 11) *fluffy the bunny   |
| 2) that bunny           | 12) *that the bunny     |
| 3) the bunny            | 13) *a the bunny        |
| 4) a bunny              | 14) *every the bunny    |
| 5) every bunny          | 15) *fluffy every bunny |
| 6) big fluffy bunny     | 16) *a every bunny      |
| 7) that fluffy bunny    | 17) *the every bunny    |
| 8) the fluffy bunny     | 18) *that every bunny   |
| 9) a fluffy bunny       |                         |
| 10) every fluffy bunny. |                         |

There seem to be two classes, things like *fluffy* that can iterate, and things like *the* that must be first and must be unique.

## Determiners

The class that includes *the*, *every*, *that*, and so forth are called the **determiners**. They come in several subtypes, but they form a category, which we designate with the **category feature [D]**.

- Cf. the [V] feature of verbs, the [T] feature of T.
- There can be only one D in a noun phrase, and it must come first.
- Adjectives come after D and before N, and can iterate.

## Adjective iteration

We've seen the iteration property elsewhere (PP adjuncts, for example):

- Pat ate lunch on the hill by the tree in the rain.

Or adverbs (vP adjuncts):

- Pat deliberately completely ate the sandwich.

So, it makes sense to suppose that adjectives are also adjuncts. But to what?

- The big fluffy bunny.

Notice that if *big* and *fluffy* are adjoined to NP, it suggests that *the* must also be, if the whole thing is an NP. But then **why can there be only one, and why must it be first?**

## D vs. N

Also, notice that D doesn't stand alone.

*The* feels incomplete. It needs a noun.

*Student* does not feel similarly incomplete.

Maybe kind of like (the prepositions) *to*, *beside*, or *with* feel incomplete, they also need something.

Or maybe more like modals, Neg *would*, *not*.

All of these are sort of "completed" by something. For P and V, they select for a noun (with a [ $uN^*$ ] feature), for M and Neg, they are higher on the HoP than v, V.

- So, maybe D is something like these... needing a noun.

## The students is a DP

Hypothesis: *the students* is not an NP, but rather a DP.

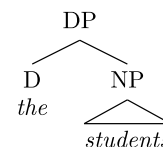
It's head-initial, like English is everywhere else.

D needs an N (HoP or selection), accounting for

- the inability to "stand alone"
- the inability to have more than one (it selects for N, not D)
- the fact that it must come before adjectives (adjoined to NP)

Since D forces the Merge, it is D that projects.

The NP can be modified by (iterating) adjectives:  
*big fluffy pink bunny.*



## The students arrived

- Ah, but there's a problem.
- Why is *The students arrived* grammatical?
 

*Arrive* is unaccusative, which we've formalized as a V with a single [*uN\**] feature and associated with a special "inert" *v*.

T also has a strong [*uN\**] feature (the EPP feature), bringing the subject to SpecTP.
- How can either of those be satisfied?
 

If we suppose *arrive* has a [*uD\**] feature instead, why isn't it \**Students arrived the*?

Are there two different versions of *arrive*, one for *the students arrived*, and one for *students arrived*?

## They were always DPs

- We can bring a degree of order to this chaos if we shift our thinking about "noun phrases":  
Those things we called "noun phrases" before were always actually DPs.
- So, T *doesn't* have a [*uN\**] feature—rather, it has a [*uD\**] feature.
  - Prepositions *don't* have a [*uN\**] feature, they have a [*uD\**] feature.
  - No "version" of *arrive* has a [*uN\**] feature, it's just the one *arrive*, but it has a [*uD\**] feature.
  - The basic form of a "noun phrase" is not *students*, but rather *a student*, *the students*. A determiner phrase.

## Students arrived

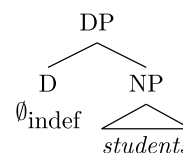
Having taken that step, we have (the specter at least) of the opposite problem:  
If *arrive* has a [*uD\**] feature and T has a [*uD\**] feature, how come *Students arrived* is grammatical? How are those features checked?

- Stand firm, brave syntacticians.
 

We grit our teeth, and conclude what we must:  
*Students* in *Students arrived* is in fact a DP. It has a determiner, which heads the DP. That determiner just happens to be *silent*.

## [<sub>DP</sub> ∅ students ] arrived

The silent D (null determiner) "shows up" with certain kinds of nouns, most notably the bare plurals (*∅ books*, *∅ students*) or mass nouns (*∅ lunch*) that we've mostly been using up until now.



There are no "bare singulars" in English: you can't use *∅ book* or *∅ student* (as in \**∅ student arrived*). The null determiner seems to be incompatible with singular nouns— it shows a kind of *number agreement*. The related singular form would use the indefinite article *a*: *A student arrived*.

## There is still an NP

- What we're doing now suggests that all of those places in previous trees where we wrote "NP", we should have written "DP" instead.

But there still is a category N, and there still are phrasal NPs, of course. We just find them in the complement of D, rather than on their own.

That is, "N comes with D."

**Hierarchy of Projections** (relevant to nouns):  
D > N

## But those were DPs

- What we're doing now suggests that all of those places in previous trees where we wrote "NP", we should have written "DP" instead.

Just to be clear on that point:  
When you draw structures for the very same sentences that we drew structures for in the past, those structures should now contain DPs, not just NPs. Keep that in mind as you review past handouts.

## one-replacement

- 1) This book or that one
  - 2) This book or the one about cats
- It appears that in English, the word *one* can replace something smaller than the DP (hence evidence for the DP having an NP inside it.)
- 3) The big green book of poetry on the shelf
  - 4) This one on my desk
  - 5) This small one on my desk
  - 6) This small red one on my desk
  - 7) \*This small red one of riddles on my desk

## Proliferating PPs

- 1) The book of poetry on my desk in the corner under the coffee
- 2) The book of poetry in the corner on my desk under the coffee
- 3) The book of poetry under the coffee in the corner on my desk
- 4) \*The book under the coffee of poetry in the corner on my desk

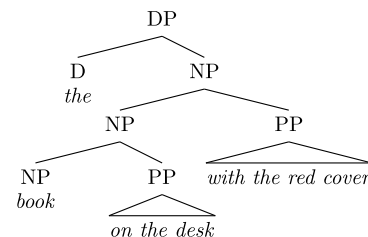
Any number of PPs can appear here, in any order, except *of poetry* seems to need to be first.

## one-replacement again

- 1) This book of poetry on my desk
  - 2) \*This book on my desk of poetry.
  - 3) \*This book of poetry of riddles.
  - 4) That one on the floor.
  - 5) \*That one of riddles on the floor.
  - 6) This book on my desk by the coffee.
  - 7) This book by the coffee on my desk.
  - 8) That one by the pencils.
- What's the pattern? Whence the pattern?
    - Of the PP's, one kind (*of poetry*) seems to have to come first.
    - There cannot be more than one of the *of poetry* type PPs.
    - One* seems to replace N and any number of PPs— but *must* replace the *of poetry* type PP if it is there.

## PP adjuncts

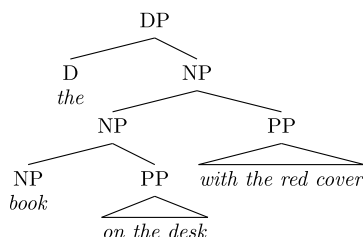
The fact that we can have any number of PPs and they can come in any order (momentarily ignoring *of poetry* type PPs), suggest that they are adjuncts. Just like with *vP*. So what does *one* stand in for?



## PP adjuncts

What kind of explanation can we offer for the facts about *of poetry* type PPs that...

- Must be closer to the noun than the other PPs, and
- Of which there can be only one, and
- Get replaced by *one*?



## Differentiating poetry from pencils

It's somewhat tricky to pin down a good diagnostic for which kinds of PP count as *of poetry* type PPs and which count as *by the pencils* type PPs.

*Of poetry* PPs generally start with *of*.

- 1) The book of great importance by the pencils.
- 2) The book by the pencils of great importance.

*Of poetry* PPs generally describe a fairly intrinsic property of the N.

- 3) The student of physics in the hall.
- 4) The student in the hall of physics.

## Of poetry PPs aren't obligatory

NPs don't necessarily have an *of poetry* type PP, but they can.

- 1) The book of poetry on the table.
- 2) The book on the table.

We'll analyze this essentially like Adger analyzed *letters to Peter* on p. 109 (though we may revise this slightly next week). An N has the option of having a [*uP\**] feature, and if it does, the PP that satisfies it must have this "intrinsic property" characteristic (and will generally be an *of*-PP).

## UTAH

Adger doesn't treat this as such (actually, he doesn't treat this at all), but we can understand the restriction to "intrinsic properties" in somewhat the same way we treat the oddity of these:

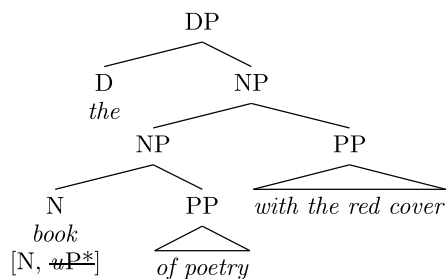
- 1) #The room learned Chinese.
  - 2) #I sent Chicago letters.
- Here, there's something about being an Agent or a possessor that requires cognitive capacity. There's an intrinsic property of the role assigned.

If *intrinsic property* can be thought of as a  $\theta$ -role, N can optionally assign this role.

- PP sister of N: Property

## one

So *book of poetry with the red cover* would look something like this. *One* can replace any NP.



## The category of pronouns

We said that bare plurals like *students* in *Students arrived* are really DPs, and have a null determiner.

[<sub>DP</sub>  $\emptyset$  students ] arrived.

- How about pronouns, like *we* in *We arrived*?

Although you can say *The students arrived*, you can't say *\*The we arrived*.

You can say things like *We linguists should stick together*. Or *You syntacticians are a crazy lot*. That is, a pronoun followed by a noun.

This only seems to work with *we* and *you*, though.

## The category of pronouns

*We linguists* looks rather like *The linguists*.

*We* looks rather like a D.

Also noteworthy:

- 1) The media always disparages us linguists.

Pronouns reflect case distinctions.

If pronouns are just Ds, then case must be a property of D.

- Case is actually a property of D (not of N).

## Case

Recall that pronouns in English show distinctions in case:

- Subject pronouns are in nominative case
- Object pronouns are in accusative case
- How can we ensure the correlation?

- 1) I saw her.
- 2) She saw me.
- 3) They saw him.

## [ucase:nom]

Nominative subjects generally appear in the specifier of a *finite* T.

- Finite T is pretty much any kind of T except the infinitive.

We can treat case like we treated tense inflection:

- Suppose T also has a [ucase:nom] feature.
- Suppose nominative DPs have a [ucase:] feature.
- Suppose the [ucase:nom] on T can value [ucase:] on the DP, checking **both**.
- So T needs a nom DP, and a nom DP needs T.

## [ucase:acc]

Subjects check nominative case with T. Objects have accusative case, which we can treat in the same kind of way.

- Suppose *v* has [ucase:acc].
- Suppose accusative DPs have [ucase]
- Suppose the [ucase:acc] on *v* can value the [ucase:] feature on the DP, checking **both**.

Nominative case is a relation between (finite) T and a DP, accusative case is a relation between *v* and a DP.

## Pronouns

Nominative case is associated with *finite* T.

- She will charm snakes.
- I want her to charm snakes.
- I expect her to charm snakes
  - Non-finite T is not associated with nominative case. It's not actually associated with accusative case either, but we'll come back to that later.

Because DPs have an *unvalued* [ucase:] feature, we can suppose that pronouns always enter the numeration the same way, and are valued based on where they are Merged.

pronoun [D, ucase:, ...]

## DPs need case

Although in English we only see the morphological effect of case on pronouns, we assume that all DPs have an unvalued [ucase:] feature.

- Plenty of languages other than English show case on all DPs, not just on pronouns. Case is something that goes with being a DP. It's just something you often don't hear in English.
- **Notational shortcuts:**

[nom] is used for [ucase:nom] (on T, or DP when checked)

[acc] is used for [ucase:acc] (on *v*, or DP when checked)

[case] is used for [ucase:] (on an DP)

## Subject-verb agreement

Recall that in English, the  $\phi$ -features of the subject have an effect on the morphology of the verb:

- 1) Fans were rioting on Comm Ave.
  - 2) A fan was rioting on Comm Ave.
- While we're here, we might as well account for this too. It is also an agreement relation, between the subject and, eventually, the verb (or auxiliary, if there is one).

## Subject-verb agreement

What we're after is this:

The subject (the thing that's getting nominative case) should share/check  $\phi$ -features with the thing that gets inflection from tense.

The  $\phi$ -features are on the DP that checks nominative case with T.

The relevant inflection is valued by T.

Maybe it's "passed" from the DP to T, then from T to the uInfl: below.

- 1) Fans were rioting on Comm Ave.
- 2) A fan was rioting on Comm Ave.
- 3) Fans riot on Comm Ave.
- 4) A fan riots on Comm Ave.

## Subject-verb agreement

So. The verb gets its tense inflection specified by T when, e.g., the [tense:pres] feature of T values the [uInfl:] feature of v.

Since the subject already agrees with T (the [nom] feature of T checks the [case] feature of the subject), we'll incorporate subject agreement into this process.

[ucase:nom]

[ucase:]

Notice that we still want this agreement to be mediated by T (sometimes it values, e.g., Perf):

- 1) They have been reading novels.
- 2) She has been reading novels.

## Subject-verb agreement

Suppose then that T has a [uφ:] feature as well.

The subject has (interpretable) φ-features that value the [uφ:] feature of T.

- They were rioting on Comm Ave.

T [T, uD\*, uφ:, nom] [ucase:nom]

they [D, φ:pl, case] [ucase:]

So, once T is in the structure, c-commanding *they* in SpecvP, we get:

T [T, uD\*, uφ:pl, nom] [ucase:nom]

they [D, φ:pl, nom] [ucase:nom]

## Subject-verb agreement

Finally, we suppose that the (checked) [uφ:pl] feature of T, also values a [uInfl:] feature on a lower v (or Perf, or Prog).

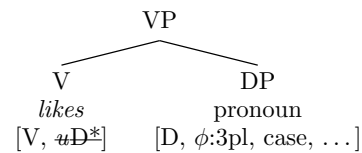
- The rules of pronunciation will tell us that a v with the verb *riot* adjoined to it sounds like:
  - “riots” if v has the feature [uInfl:pres,sg]
  - “riot” if v has the feature [uInfl:pres,pl]

Notice that T values a [uInfl:] feature all at once, with any relevant feature(s) it has (so, tense and φ-features both).

## She likes them

So, let's walk through it.

We start by merging *like* and the 3pl pronoun.



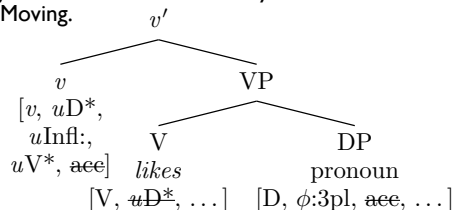
## She likes them

v [v, uD\*, uInfl:, uV\*, acc]

We Merge v with VP (HoP).

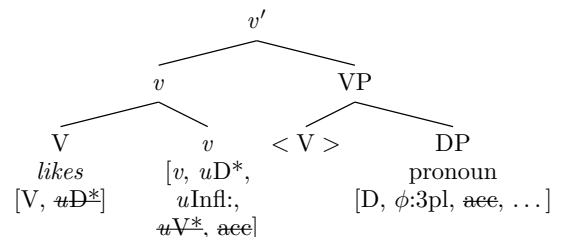
The [acc] on v matches, values, and checks the [case] on the pronoun, checking itself as well.

- Agree is lazy, we can do this without any further Merging or Moving.



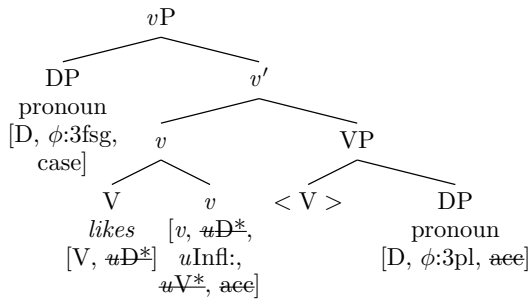
## She likes them

The V moves up to adjoin to v to check the [uV\*] feature of v.



# She likes them

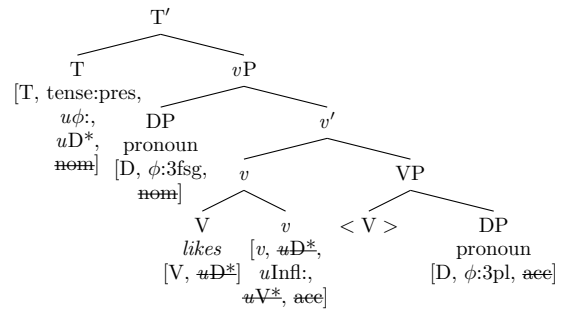
The 3sg feminine pronoun is Merged to check the [ $uD^*$ ] feature of  $v$ .



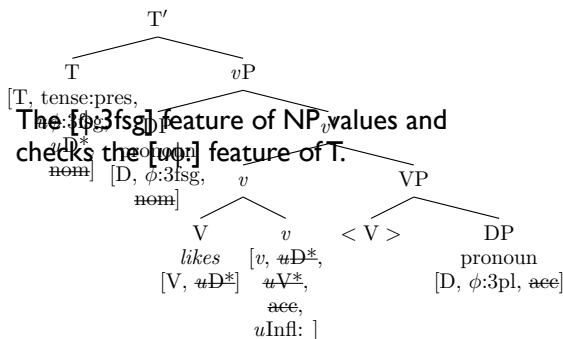
# She likes them

The T is Merged with  $vP$  (HoP).

The  $[nom]$  feature of T matches, values, and checks the  $[case]$  feature of the pronoun, checking itself in the process.



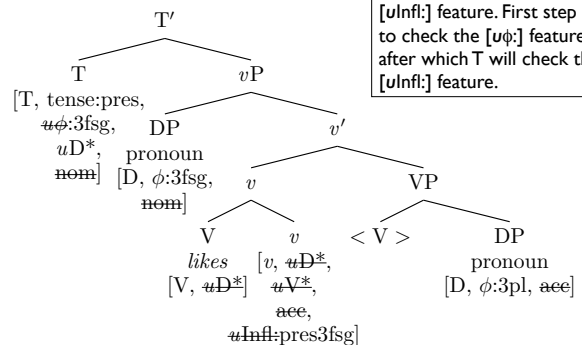
# She likes them



# She likes them

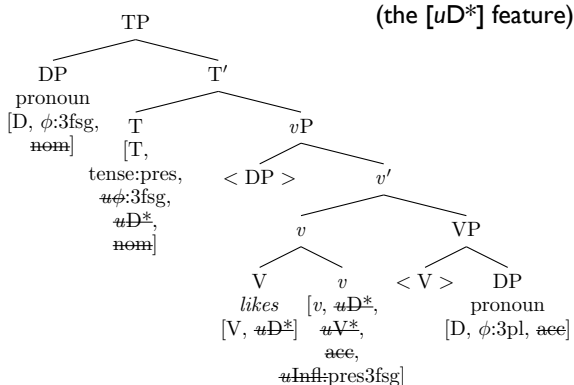
The  $[u\phi:3fsg]$  and  $[tense:pres]$  features of T value and check the  $[uInfl:]$  feature of  $v$ .

From now on: (Finite) T can only value a lower  $[uInfl:]$  feature once T itself has a value for  $[\phi]$ . Both  $[tense]$  and  $[\phi]$  value the lower  $[uInfl:]$  feature. First step is always to check the  $[u\phi]$  feature on T, after which T will check the lower  $[uInfl:]$  feature.



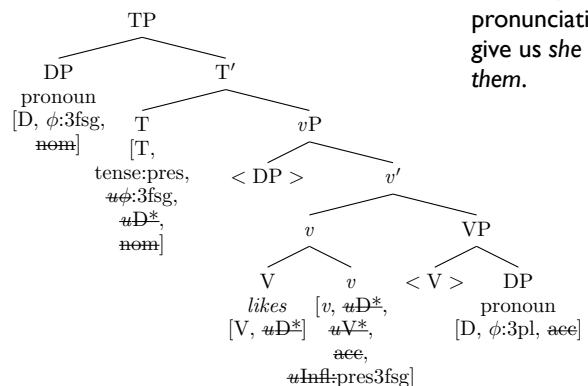
# She likes them

Finally, the DP is moved up and Merged with  $T'$  in order to check the EPP feature (the  $[uD^*]$  feature) of T.



# She likes them

All uninterpretable features are checked, the pronunciation rules give us *she likes them*.



# Passives

The **passive construction** is one where:

The original subject disappears  
(or becomes a *by*-phrase)

The original object becomes the subject.

The verb appears as *be*+passive participle.

- The passive participle in English sounds just like the perfective participle.

- Pat took pretzels.                      **active**
- Pretzels were taken (by Pat).      **passive**

# Passives

- Pat stole books.
- Books were stolen (by Pat).

In both cases, *books* is getting the Theme/Patient  $\theta$ -role. By UTAH, it must be originally Merged as DP daughter of VP, in both the active and the passive.

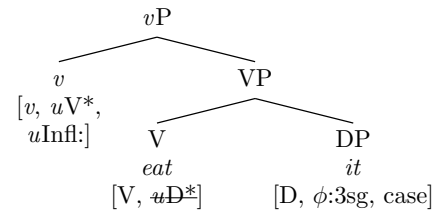
- In fact, the passive is a lot like the unaccusative. An “underlying object” becomes the subject.

# Passives

- All we need is the passive auxiliary Pass.
- *be* [Pass, uInfl:] selects a  $v_{unaccusative}$ .
- By selecting for  $v_{unaccusative}$ , the passive auxiliary “removes” an Agent.
- Not allowed for intransitives, an open mystery.
- \*It was danced (by Pat)
- The passive auxiliary works like other auxiliaries: Pass can value a lower [uInfl:] feature, if Pass’ own [uInfl:] feature is valued by a [tense] feature, it is strong.
- Lunch was not eaten.
- **Pass is the last auxiliary in the HoP:**
- Lunch may not have been being eaten.
- T > (Neg) > (M) > (Perf) > (Prog) > (Pass) > v > V

# It was eaten

For *It was eaten*, we Merge *eat* and *it* to build the VP, then Merge an unaccusative  $v$ ...

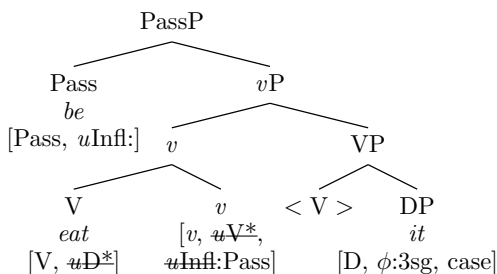


# It was eaten

The V moves up to adjoin to  $v$  to check the [uV\*] feature of  $v$ .

The Pass auxiliary is Merged (HoP).

[Pass] matches, values, checks [uInfl:] on  $v$ .



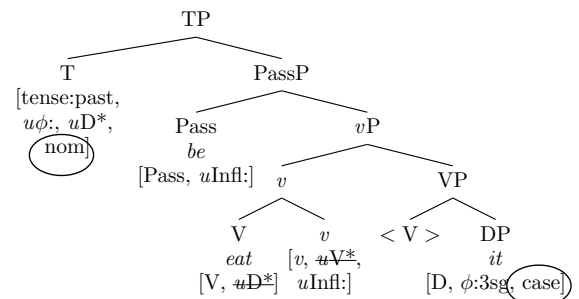
# It was eaten

T is Merged (HoP).

[nom] on T matches, values, checks [case] on *it*.

[phi:3sg] on *it* matches, values, checks [uphi:] on T.

[past] on T matches, values [uInfl:] on Pass.

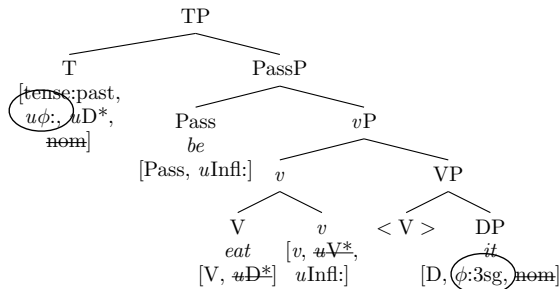




## It was eaten

T is Merged (HoP).

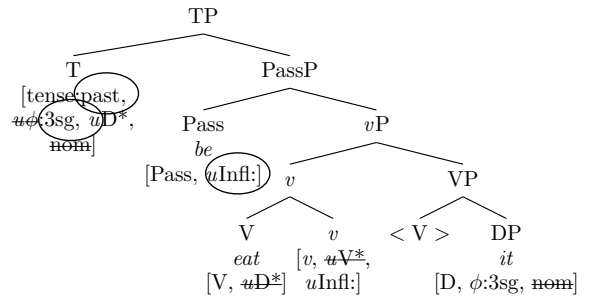
[nom] on T matches, values, checks [case] on *it*.  
 [φ:3sg] on *it* matches, values, checks [uφ:] on T.  
 [past] on T matches, values [uInfl:] on Pass.



## It was eaten

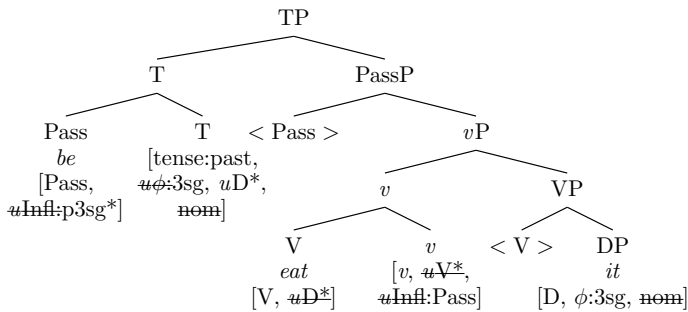
T is Merged (HoP).

[nom] on T matches, values, checks [case] on *it*.  
 [φ:3sg] on *it* matches, values, checks [uφ:] on T.  
 [past] on T matches, values [uInfl:] on Pass.



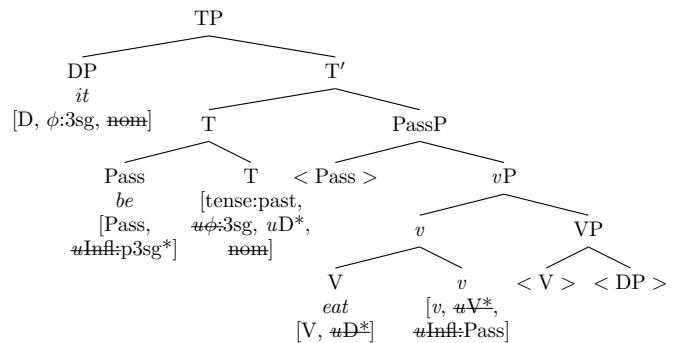
## It was eaten

Pass moves to T (checks [uInfl:past\*] on Pass).



## It was eaten

*It* moves to SpecTP (checks [uD\*] on T).



## Ditransitive passives

Consider again *Pat gave Chris books*.

- Chris was given books.
- \*Books were given Chris.

*Pat gave books to Chris*.

- Books were given to Chris.
- \*Chris was given books to.

## Where does the by-phrase attach?

Adverb tests can give us a hint...

The sandwich was eaten by Pat today at noon  
 The sandwich was eaten by Pat at noon today  
 The sandwich was eaten today \_ by Pat \_ at noon  
 The sandwich was eaten at noon \_ by Pat \_ today

The dishes were washed by Pat \_ poorly \_ yesterday  
 The dishes were washed poorly by Pat yesterday  
 The sandwich was eaten by Pat \_ sloppily \_ at noon  
 The sandwich was eaten sloppily by Pat at noon

- Conclusion?

## Adverbs

Before today, we'd mostly drawn adjuncts as adjoined to vP. This explains why *sloppily* can be either to the left or to the right of vP:

- 1) Pat sloppily ate lunch.
- 2) Pat ate lunch sloppily.
- 3) Pat has sloppily eaten lunch.
- 4) Pat has eaten lunch sloppily.

*Sloppily* also seems to be able to adjoin to PerfP or ProgP, at least marginally.

- 5) ?Pat might sloppily have eaten lunch.
- 6) ?Pat should sloppily be eating lunch.

But it can't be between a subject and T:

- 7) \*Pat sloppily might eat lunch.

## Manner vs. propositional adverbs

*sloppily, slowly, quickly*—all describe the *manner* in which an action takes place. These are **manner adverbs**. They adjoin to vP.

There are other kinds of adverbs as well, however. One such kind are propositional adverbs: *perhaps, fortunately, interestingly*. These express a kind of attitude on the part of the speaker toward the content of the sentence.

## Propositional & temporal adverbs

- **Propositional adverbs** seem to adjoin to TP.

- 1) Fortunately, Pat ate lunch.
- 2) Pat ate lunch, fortunately.
- 3) ?Pat fortunately ate lunch.
- 4) ?Pat might have fortunately eaten lunch.

- **Temporal adverbs** also seem to adjoin high.

- 5) Today Pat ate lunch.
- 6) Pat ate lunch today.
- 7) \*Pat today ate lunch.

## Adverb positions

Generally speaking, where an adverb attaches depends on its meaning.

vP for manner adverbs, TP for temporal adverbs, ...

Notice that we predict this now:

- 1) Yesterday [Pat completely [finished lunch]].
- 2) Yesterday [Pat [finished lunch] completely].
- 3) Pat [[finished lunch] completely] yesterday.
- 4) Pat [completely [finished lunch]] yesterday.
- 5) \*Pat [[finished lunch] yesterday completely].

Later, perhaps, we'll consider additional complexity in adverb placement.

## Where does the by-phrase attach?

Adverb tests can give us a hint...

The sandwich was eaten by Pat today at noon  
The sandwich was eaten by Pat at noon today  
The sandwich was eaten today \_ by Pat \_ at noon  
The sandwich was eaten at noon \_ by Pat \_ today

The dishes were washed by Pat \_ poorly \_ yesterday  
The dishes were washed poorly by Pat yesterday  
The sandwich was eaten by Pat \_ sloppily \_ at noon  
The sandwich was eaten sloppily by Pat at noon

- Conclusion?

## Japanese Numeral Quantifiers

- Gakusei ga hon o 4-satu katta  
students nom book acc 4-cl bought  
'The students bought four books.'
- ?\*Gakusei ga hon o 4-nin katta  
students nom book acc 4-cl bought
- Gakusei ga 4-nin hon o katta  
students nom 4-cl book acc bought  
'Four students bought books.'
- Gakusei ga kyoo 3-nin kita  
students nom today 3-cl came  
'Three students came today.'
- Hon o Taroo ga 2-satu katta  
books acc T nom 2-cl bought  
'Books, Taroo bought two.'
- Yuube, kuruma ga doroboo ni 2-dai nusum-are-ta  
last night cars nom thief by 2-cl steal-pass-past  
'Last night, two cars were stolen by a thief.' (Miyagawa 1989)