

It is now late enough in the semester that our system is essentially completely in place. Here are a couple of sample derivations worked all the way through in order to help clarify how they work.

The sentences we will examine here are the following:

**Carmela said AJ's advisor was told that AJ might want to study event-planning.** (we will treat "event-planning" as noun)

**The continuous drawing of complicated trees builds strong character.**

If you wish you can try your hand at them first, before running through the derivations here. If you do, let me add a note about the first sentence: We haven't looked at *tell* yet, which is a ditransitive verb here. There is really only one possible structure, one which according to the UTAH makes the tell-ee a Theme. One can argue about whether that is the right result, but we will accept that for now.

**Carmela said AJ's advisor was told that AJ might want to study event-planning.**

To begin, we want to get a general idea of what's going on here. There are several embedded clauses here, which we can identify partly by the main verbs of each clause.

The main verb of the lowest clause is *study*. It is a transitive verb, and is interpreted as if *AJ* is the Agent and *event-planning* is the Theme. This clause is also nonfinite (*to study*).

The main verb of the next higher clause is *want*. It is interpreted with *AJ* as the Experiencer, and the lowest clause as the Proposition (that is, the Experiencer *wants* the Proposition). We can see at this point that the Agent of the lowest clause must be PRO, since otherwise *AJ* would be getting two roles (Experiencer of *want* and Agent of *study*). That also means the lowest clause is a CP (not just a TP).

The main verb of the next higher clause is *tell*. Moreover, it is passive (*was told*), where *AJ's advisor* is the Theme (see note above, Theme being the one who was told), and the clause embedded under *tell* is the Proposition (the thing told). There is no Agent because it is passive.

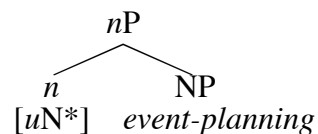
The main verb of the highest clause is *say*. The Agent of *say* is *Carmela*, the Proposition is the entire lower clause.

So, let's work our way up. We start by building the lowest clause [CP  $\emptyset_{\text{NULL}}$  PRO to study event-planning], according to what we determined above.

**event-planning:** This is essentially a mass noun (it certainly isn't a count noun), so this goes with  $\emptyset_{\text{MASS}}$ , the indefinite determiner for mass nouns. We also need a little *n*, because we always need a little *n*. So, to build the DP *event-planning*, we do this:

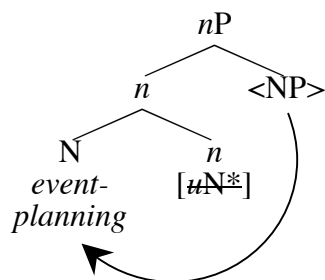
**Merge event-planning and n.**

This happens due to the Hierarchy of Projections (D > (PossP) > n > N), since the N didn't need anything. So *n* projects.



**Move N to n.**

This checks the [uN\*] feature of *n*.

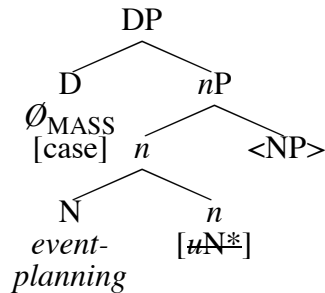


### Merge $nP$ and $\emptyset_{\text{MASS}}$ .

This happens due to the Hierarchy of Projections ( $D > (\text{PossP}) > n > N$ ), since the  $n$  didn't need anything. So  $D$  projects.

*Note:* We had said previously that  $D$  had a  $[uN^*]$  feature that drives this step. However, that would not work if we have a  $\text{PossP}$  (though we don't in this case). We'll revisit this when we do *AJ's advisor*.

Like all  $D$ 's,  $\emptyset_{\text{MASS}}$  has a  $[\text{case}]$  feature.



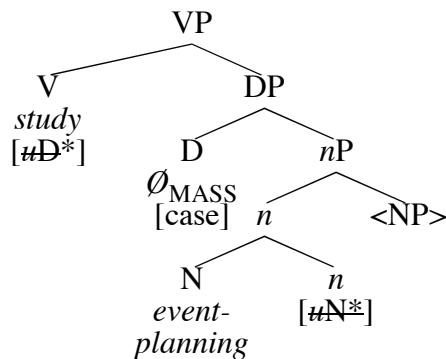
Now, we can build up  $[_{VP} \text{PRO to study event-planning}]$ :

### Merge *study* and DP.

*Study* is a transitive verb, so it needs an object (it has a  $[uD^*]$  feature), which will receive the Theme  $\theta$ -role.

Merging *study* with a DP will check the  $[uD^*]$  feature of *study*.

Since *study* motivated the Merge (by having a feature checked),  $V$  projects.



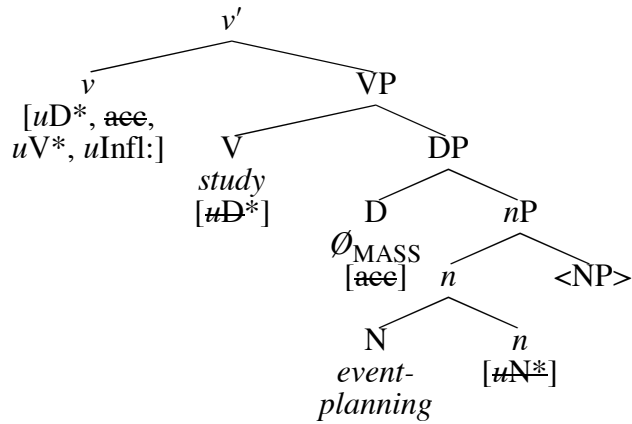
### Merge $v$ and VP.

Motivated by the Hierarchy of Projections (C > T > (NegP) > (MP) > (PerfP) > (ProgP) > (PassP) >  $v$  > V), since VP is done. *Study* is a transitive verb, so the  $v$  has a [ $uD^*$ ] feature—it needs a DP that will receive the Agent  $\theta$ -role.

When  $v$  has a [ $uD^*$ ] feature, it also has an [acc] feature.

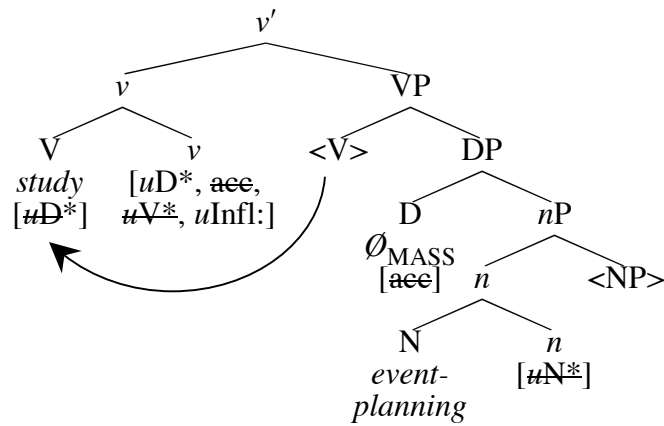
Like all  $v$ 's, this  $v$  also has a [ $uInfl$ :] feature, and [ $uV^*$ ] feature.

The [acc] feature of  $v$  matches and values the [case] feature of D, checking both.



### Move V to v

*v* has a [*uV\**] feature, which can only be checked locally (in what amounts to a sisterhood relation). So V must move up and adjoin to *v*. This checks the [*uV\**] feature of *v*.

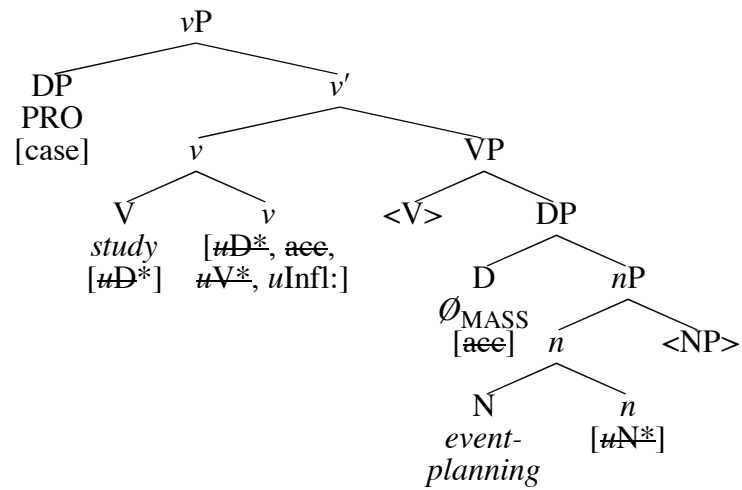


### Merge $v'$ and PRO.

The Agent of *study* is PRO. PRO is essentially a pronoun, it is of category D.

Like all D's, PRO has a [case] feature.

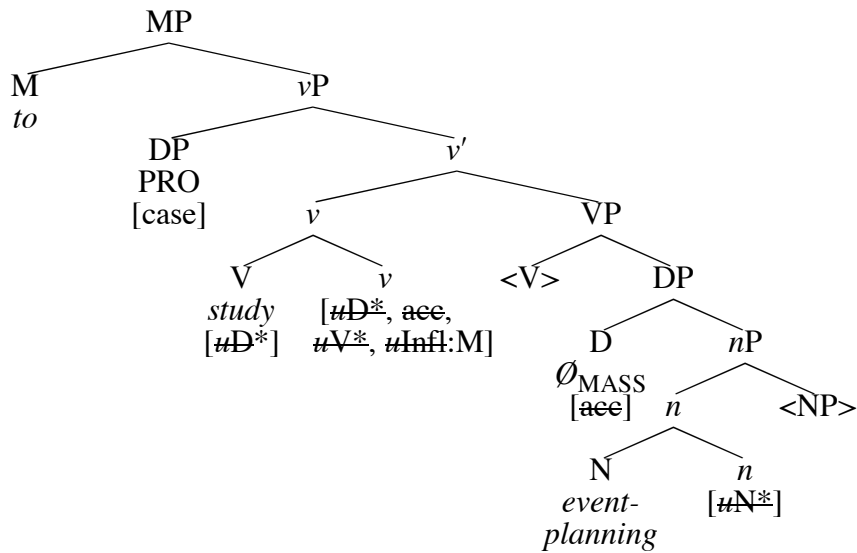
This Merge checks the [ $uD^*$ ] feature of  $v$ , which is the last of  $v$ 's strong features. The  $v$  projects, for the last time, to  $vP$ .



And now we can finish the CP...

**Merge *vP* and *to*.**

This clause is nonfinite, which means that we need both the infinitive marker (modal) *to* and a nonfinite T. Motivated by the Hierarchy of Projections (C > T > (NegP) > (MP) > (PerfP) > (ProgP) > (PassP) > *v* > V), since *vP* is done. The category feature of the modal *to* matches, values, and checks the [*uInfl*:] feature of *v* (as [~~*uInfl*~~:M]).



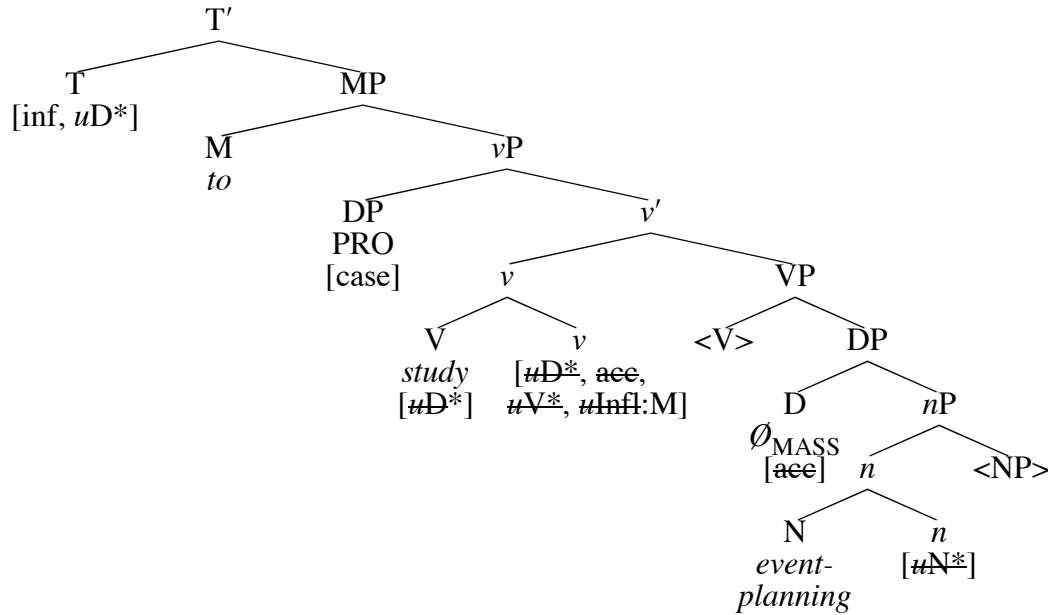
### Merge MP and T.

Motivated by the Hierarchy of Projections (C > T > (NegP) > (MP) > (PerfP) > (ProgP) > (PassP) > v > V), since MP is done.

This clause is nonfinite, so T has no case features and no  $\phi$ -features.

Like all T's, this T has a [ $\mu$ D\*] feature (a.k.a. the "EPP feature").

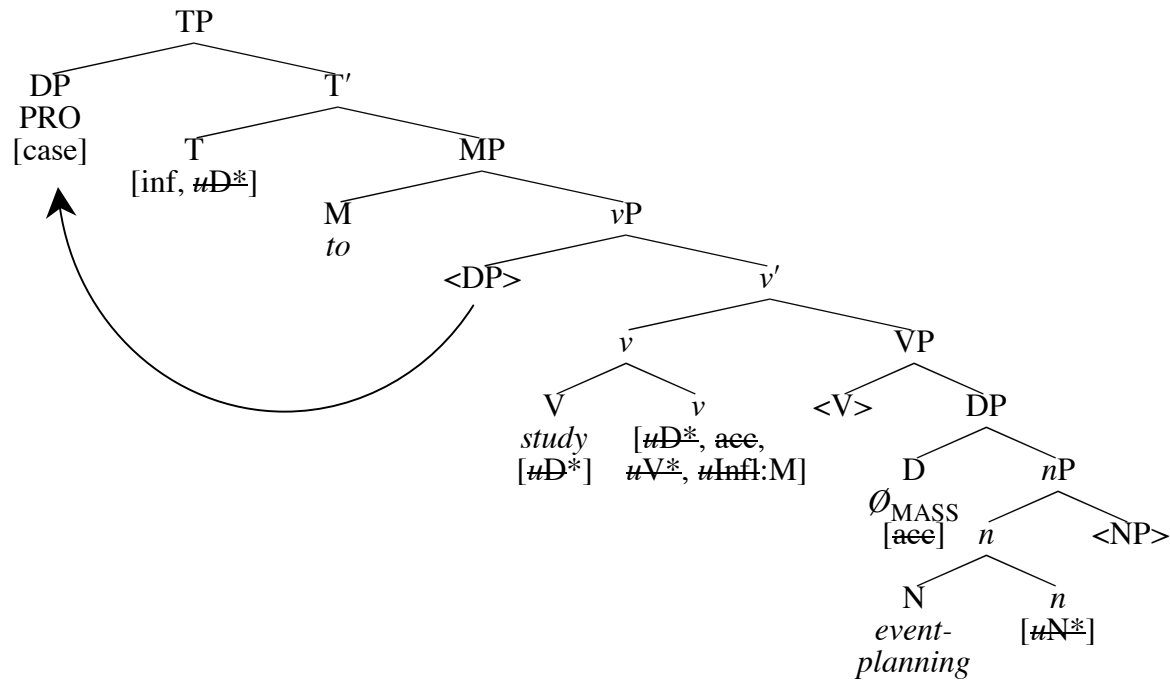
Since T still has a strong uninterpretable feature (the EPP feature), the label of this step is T'.





### Move PRO to SpecTP

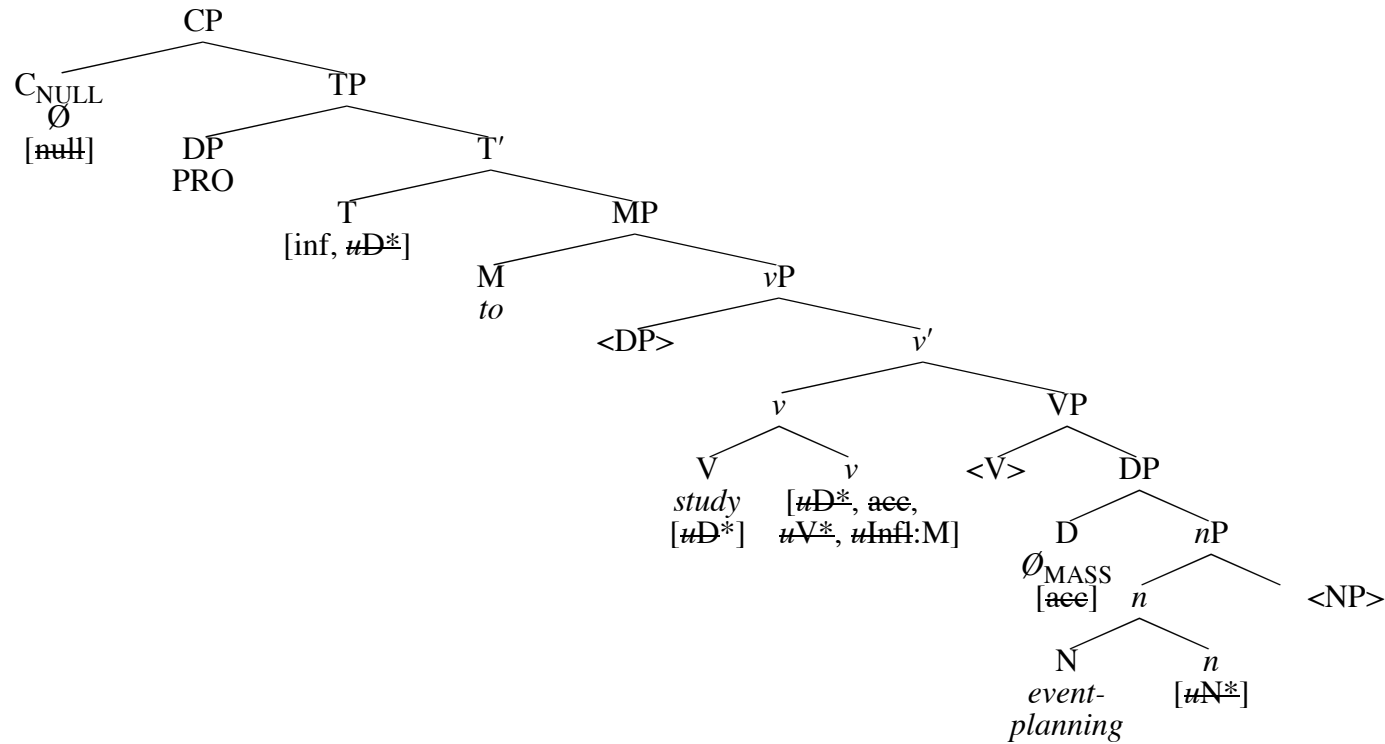
To satisfy the last strong uninterpretable feature of T, we move the nearest D (the nearest feature to match [ $\mu D^*$ ]) into the specifier of TP. This checks the [ $\mu D^*$ ] feature of T.



### Merge C<sub>NULL</sub> with TP

When the subject is PRO, it needs to have null case. The only way to check null case is with the special C (C<sub>NULL</sub>).

So, we Merge C<sub>NULL</sub> with the TP, and the [null] feature of C<sub>NULL</sub> matches, values, and checks the [case] feature of PRO.

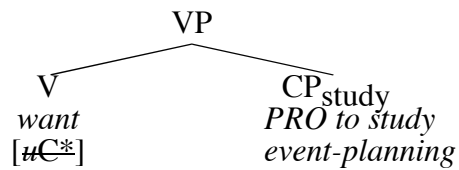


Ok, now let's move on to build the [CP that AJ might want [CP ...]]. I will from here on draw the CP we just built ([CP C<sub>NULL</sub> PRO to study event-planning]) as just CP<sub>study</sub>, to save space.

### Merge *want* with CP<sub>study</sub>

*Want* is a transitive verb that can take a CP as its complement. So, V has a [*uC\**] feature that is checked by this Merge.

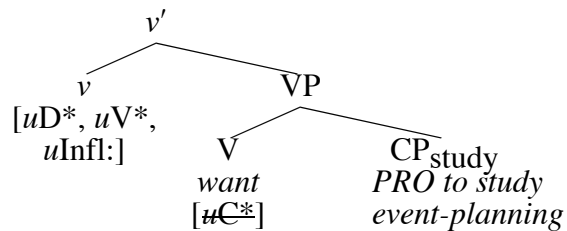
Note: *Want* can also take a TP as its complement in other circumstances (for example, *I want him to leave*). In that case, we would assume *want* has a [*uT\**] feature instead. And *want* can also take a DP (for example, *I want lunch*), in which case we would assume *want* has a [*uD\**] feature. We basically suppose that there are three versions of *want* we can choose from. In this case we want the one with the [*uC\**] feature, since it takes a CP.



### Merge *v* with VP

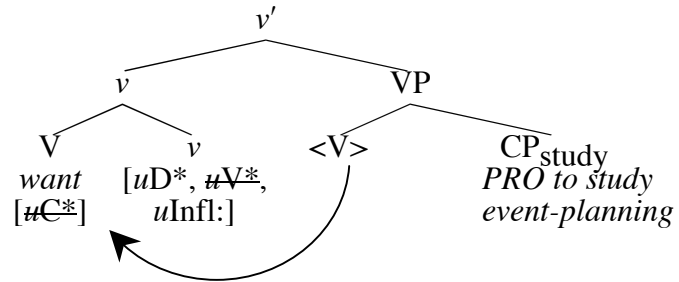
HoP.

Here we have to assume that *v*, while in principle capable of checking accusative case (generally correlated with having a [*uD\**] feature for an Agent or an Experiencer), does not have an [*acc*] feature, because it would have no way of being checked (since the object of this transitive verb is a CP, and CPs don't need case).



**Move V to v**

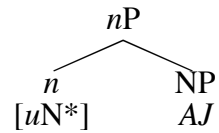
Checks [ $uV^*$ ] on  $v$ .



We'll pause for a moment to build the DP  $AJ$  that we'll need to Merge with  $v'$ .

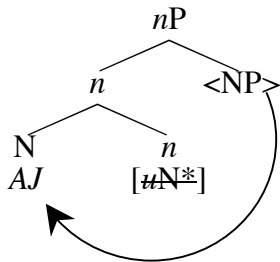
**Merge  $AJ$  and  $n$ .**

HoP.



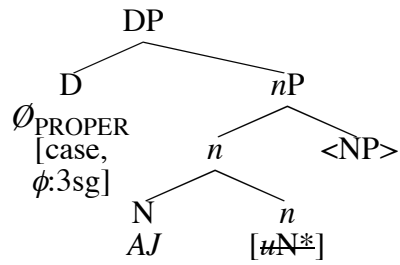
**Move N to n.**

Checks the [ $uN^*$ ] feature of  $n$ .



**Merge *nP* and  $\emptyset_{\text{PROPER}}$ .**

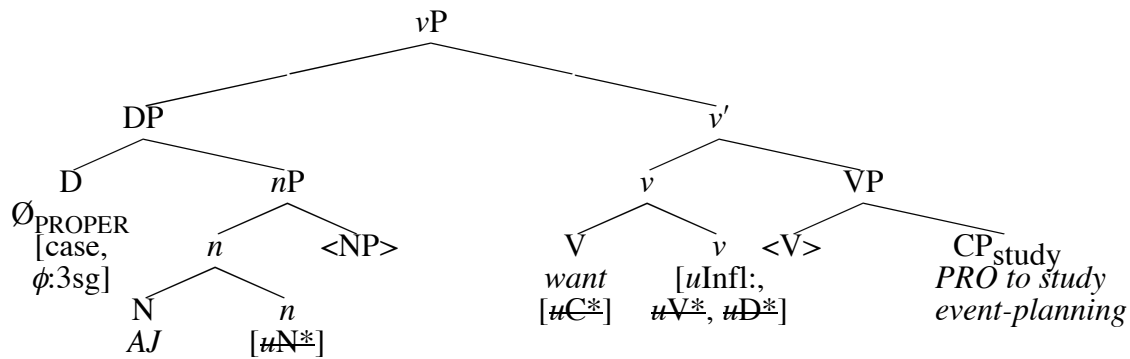
HoP.



Now, we can return to our *v'*...

**Merge DP and *v'***

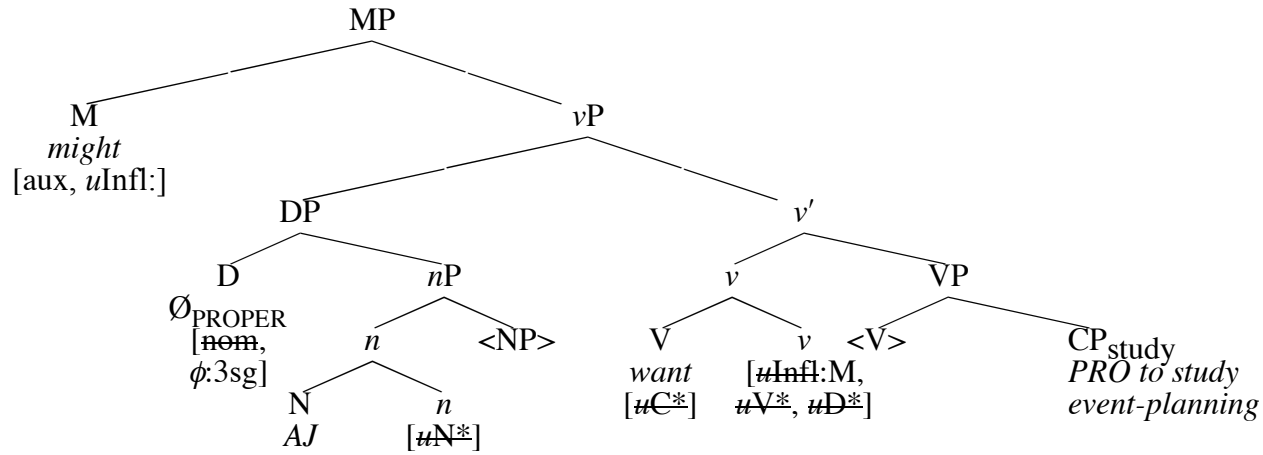
Checks [*uD\**] on *v*.



**Merge *might* and vP**

HoP.

The category feature of *might* matches, values, and checks the [*uInfl:*] feature on *v*.



## Merge T and MP

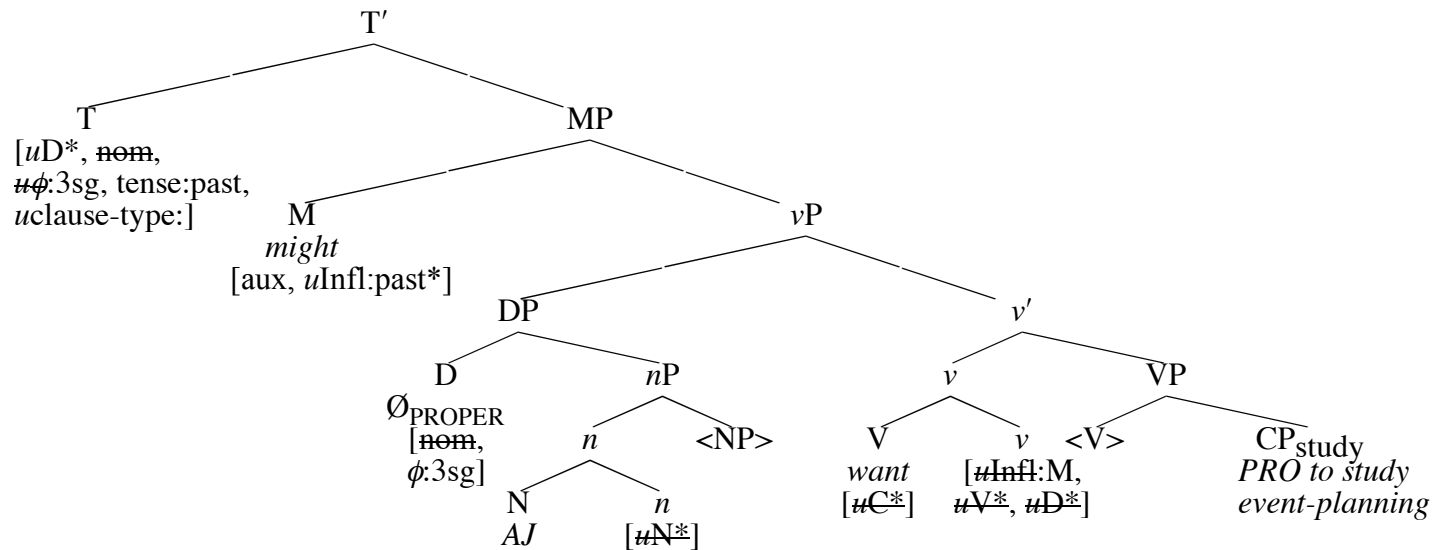
HoP.

The [nom] feature of T matches, values, and checks the [case] feature on *AJ*.

The [ $\phi$ :3sg] feature of *AJ* matches, values, and checks the [ $u\phi$ ] feature on T.

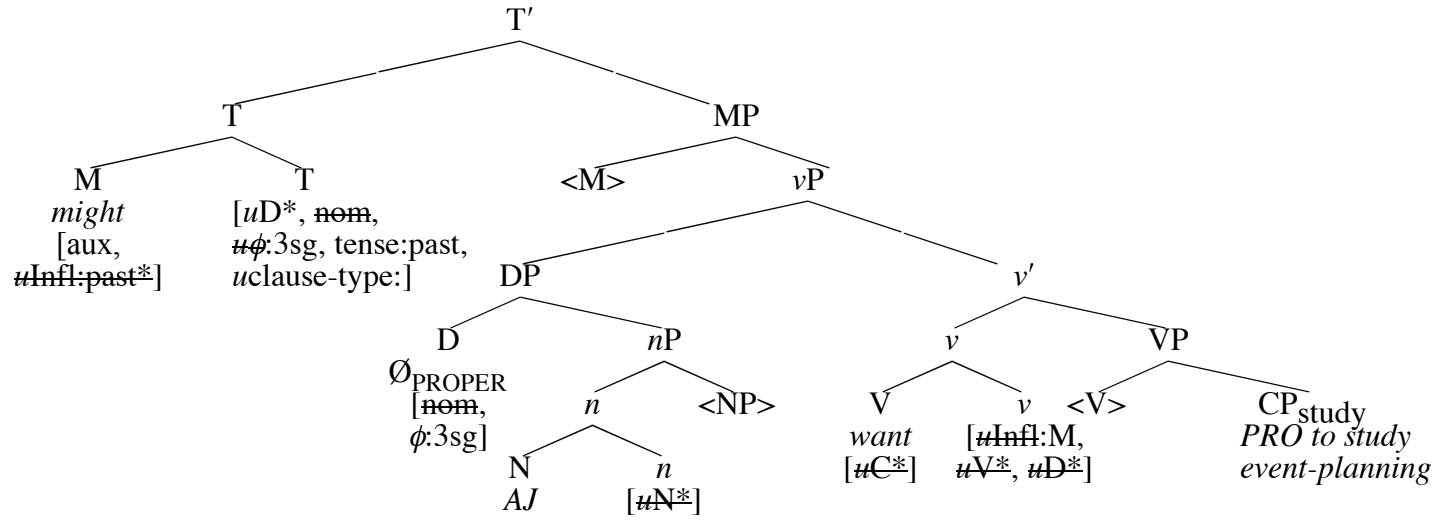
The [tense:past] feature of T matches and values the [ $u$ Infl:] feature on M as strong.

T has a [ $u$ clause-type:] feature like all finite Ts do.



**Move M to T**

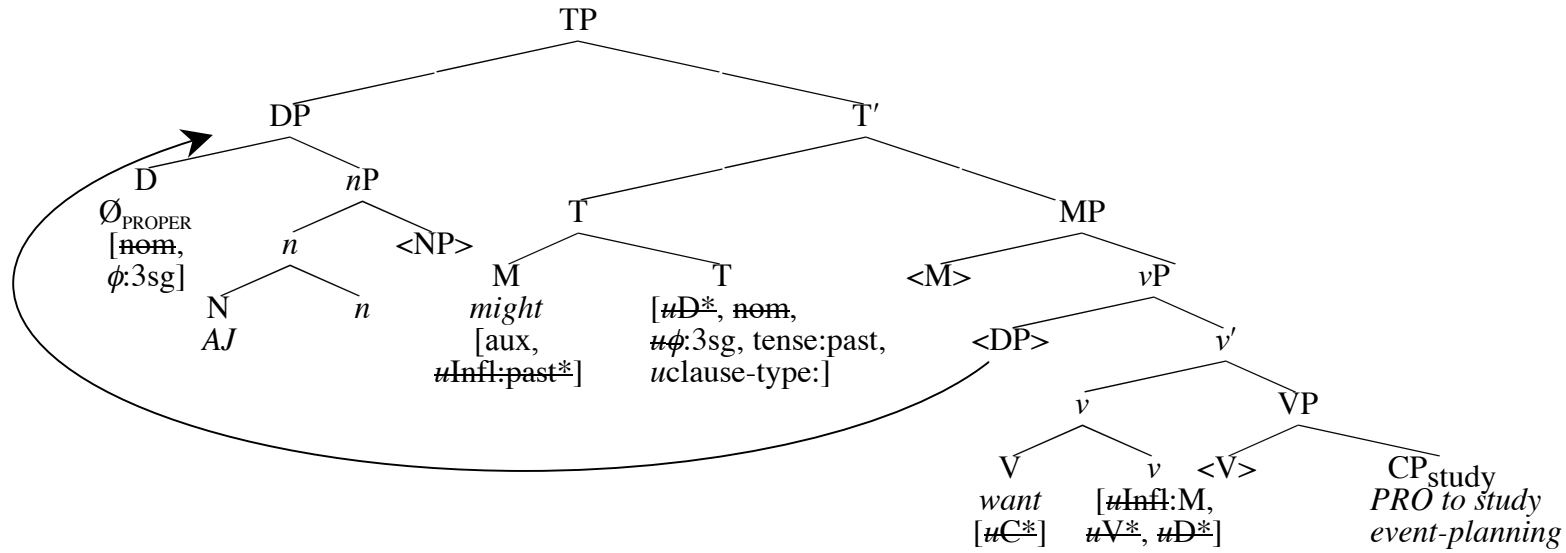
Checks the [*uInfl:past\**] feature of M.





### Move AJ to SpecTP

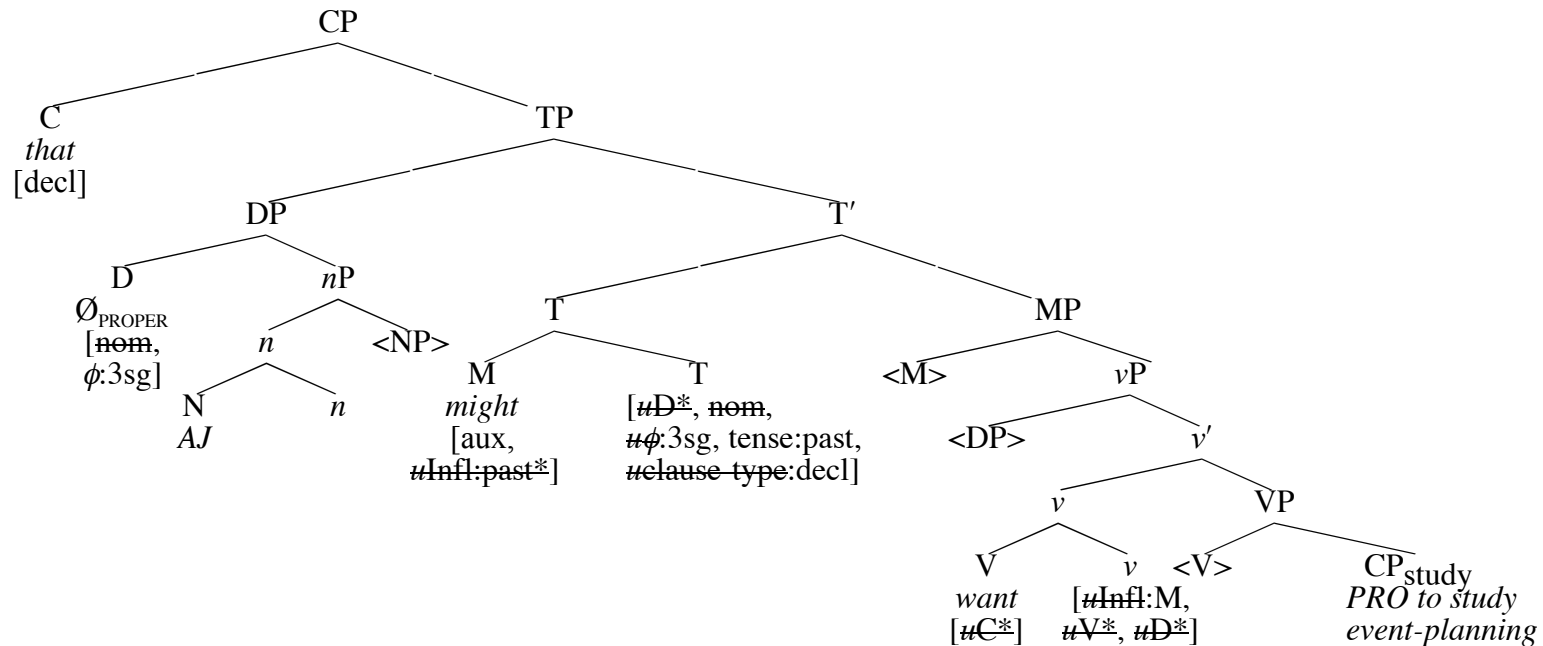
Checks the [ $\mu D^*$ ] feature of T.



## Merge *that* and TP

HoP.

The [clause-type:decl] feature of C matches, values, and checks the [uclause-type:] feature of finite T.

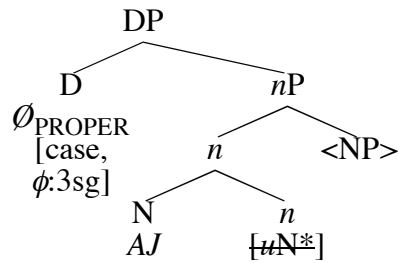


Phew. Ok, now, moving up to [CP AJ's advisor was told [CP ... ]]. Here again, for space reasons, I'll abbreviate the CP we just built. This one, we'll call CP<sub>want</sub>.

Since we're going to need it later, let's start by building *AJ's advisor*—and let's start that by building *AJ*, which works just like it did last time we built *AJ*.

**Merge *AJ* and *n*, Move N to *n*, and Merge *nP* and  $\emptyset_{\text{PROPER}}$ .**

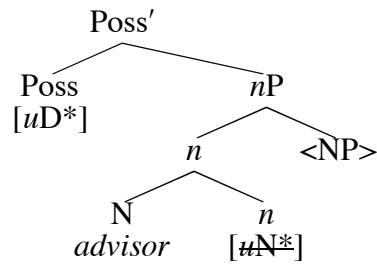
HoP. Check [*uN\**]. HoP.



Now, on to *AJ's advisor*. This is a possessor-possessee relation, so *AJ* is going to get the Possessor  $\theta$ -role. We know that Possessors start in SpecPossP, so we need a PossP.

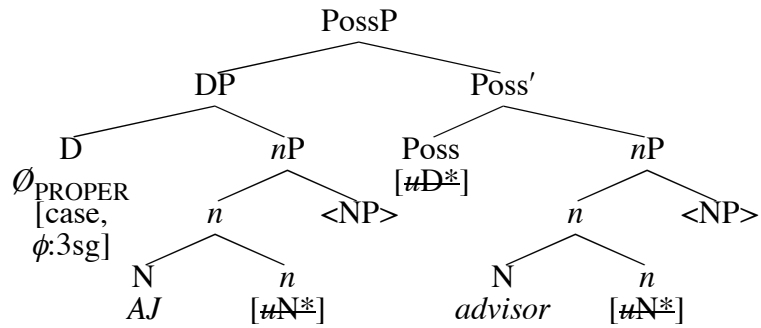
**Merge *advisor* and *n*, move N to *n*, and Merge Poss and *nP*.**

HoP. Check [*uN\**]. HoP.



### Merge AJ and Poss'.

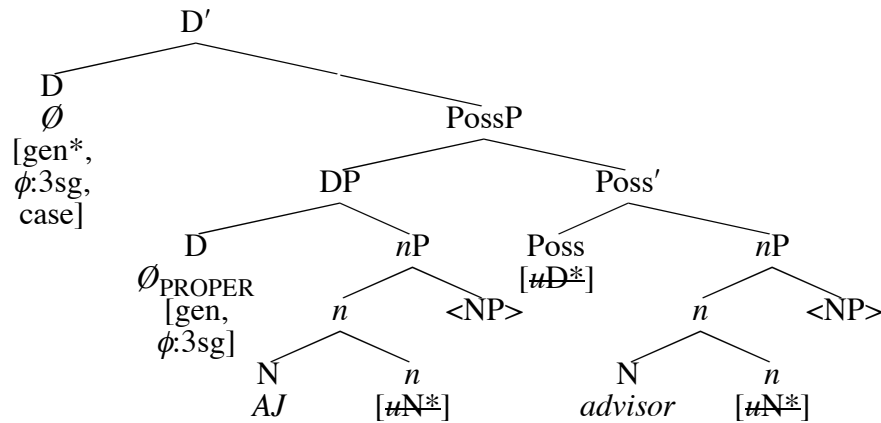
Checks the [ $\mu D^*$ ] feature of Poss.



### Merge PossP and D<sub>GEN</sub>

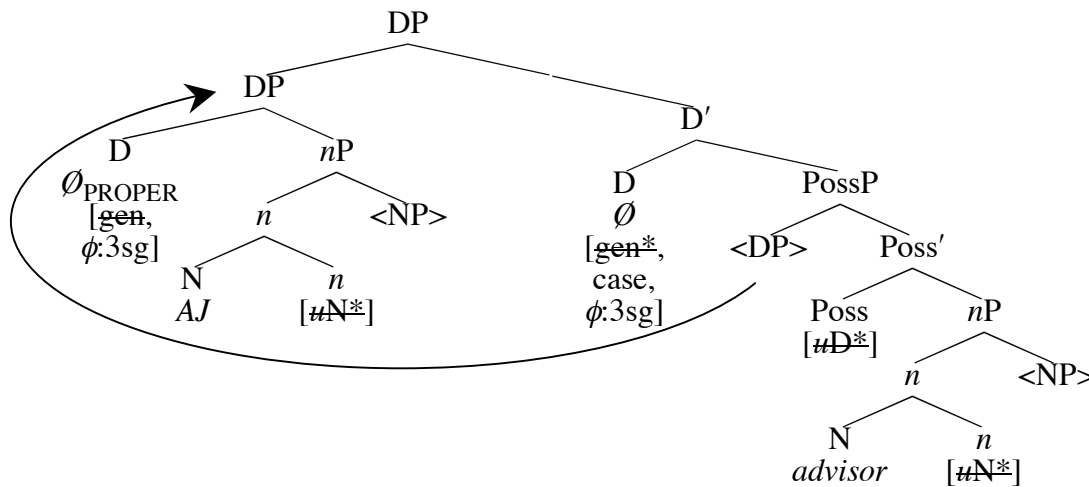
HoP.

The [ $\text{gen}^*$ ] feature of D<sub>GEN</sub> matches and values the case feature of AJ, but cannot check it until the features are local.



### Move AJ into SpecDP

Checks the [gen\*] feature of D<sub>GEN</sub>.



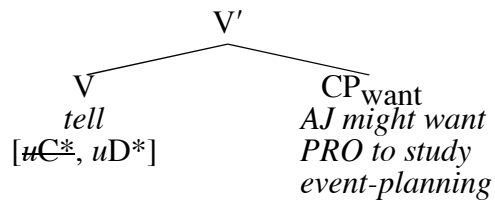
There, that's AJ's advisor. Now, we can return to AJ's advisor was told CP<sub>want</sub>.

Tell is ditransitive, and also is in the passive form (was told). With that in mind, we begin:

### Merge tell with CP<sub>want</sub>

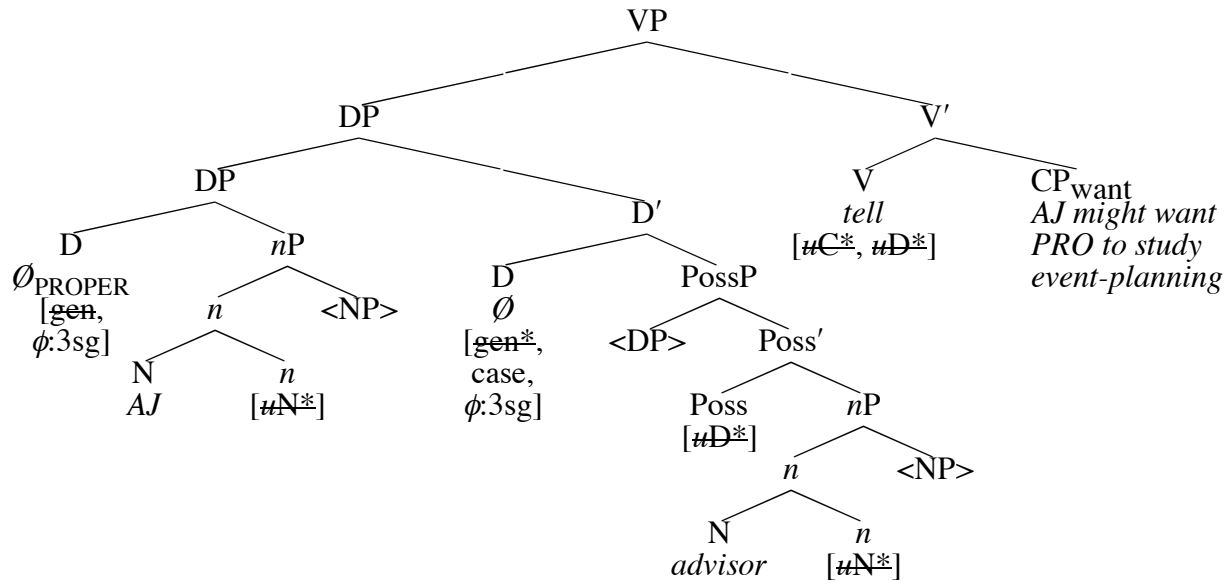
Tell is a ditransitive verb that takes a CP complement and a DP Theme.

So, V has a [*uC\**] feature and a [*uD\**] feature. The [*uC\**] feature is checked by this Merge.



**Merge *AJ's advisor* with *V'*.**

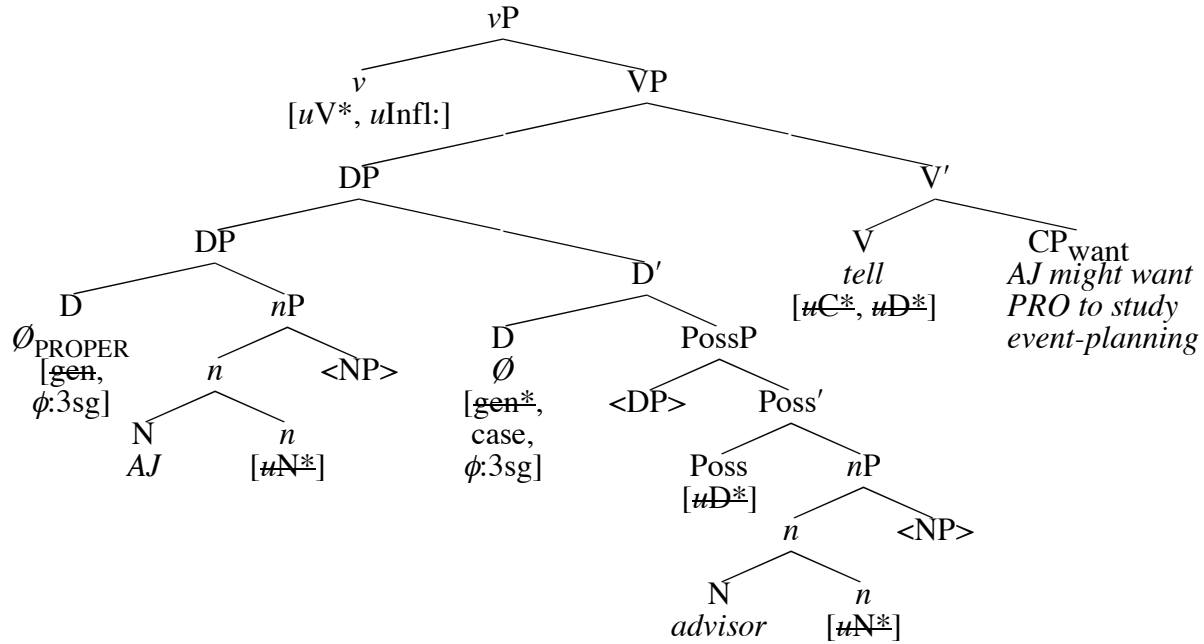
This checks the [ $\mu$ D\*] feature of V.



**Merge  $\nu$  with VP**

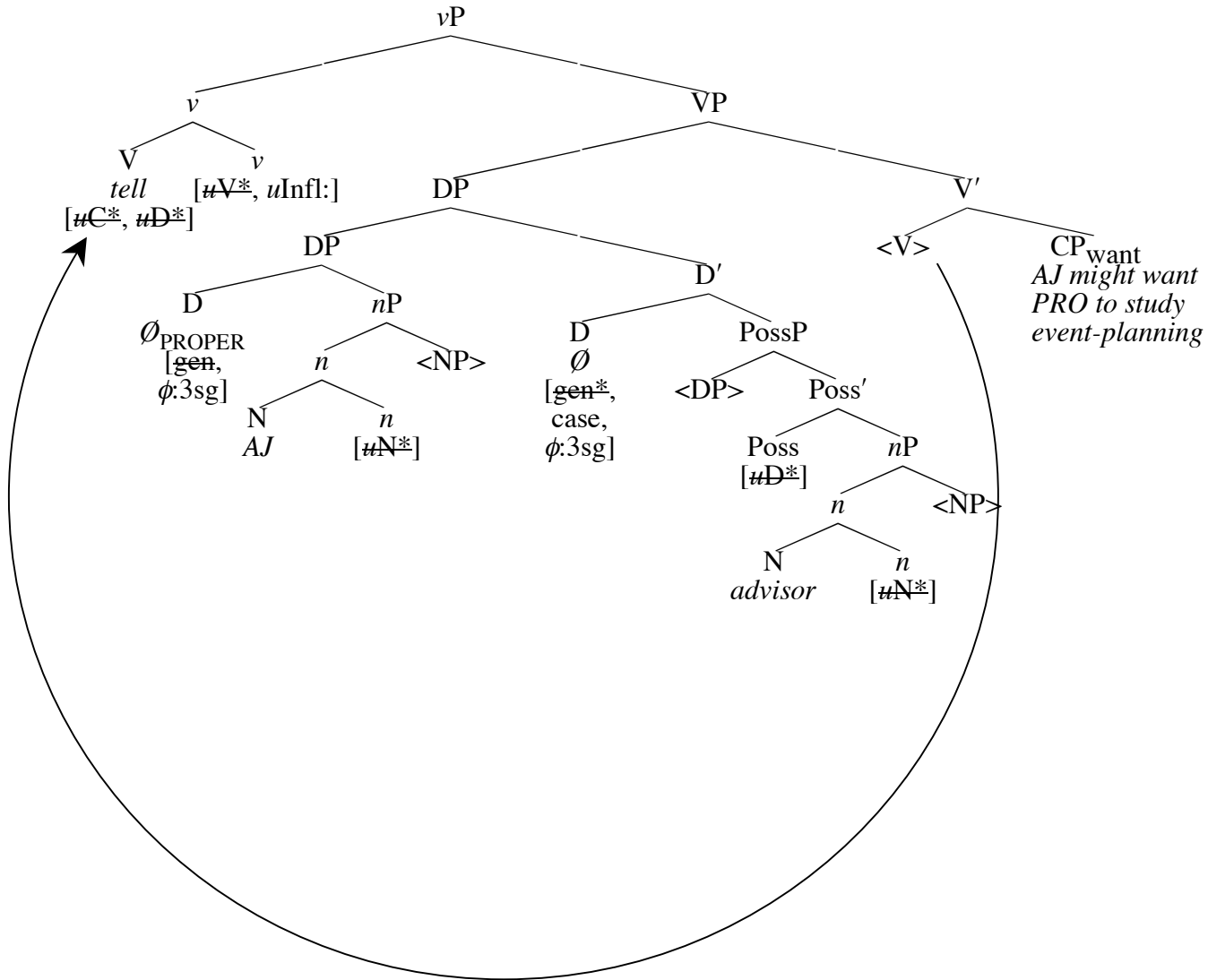
HoP.

This is a passive, so  $\nu$  does not have an Agent or Experiencer, hence no [ $uD^*$ ] feature and no [acc] feature.



**Move V to v**

Checks the [ $uV^*$ ] feature of  $v$ .

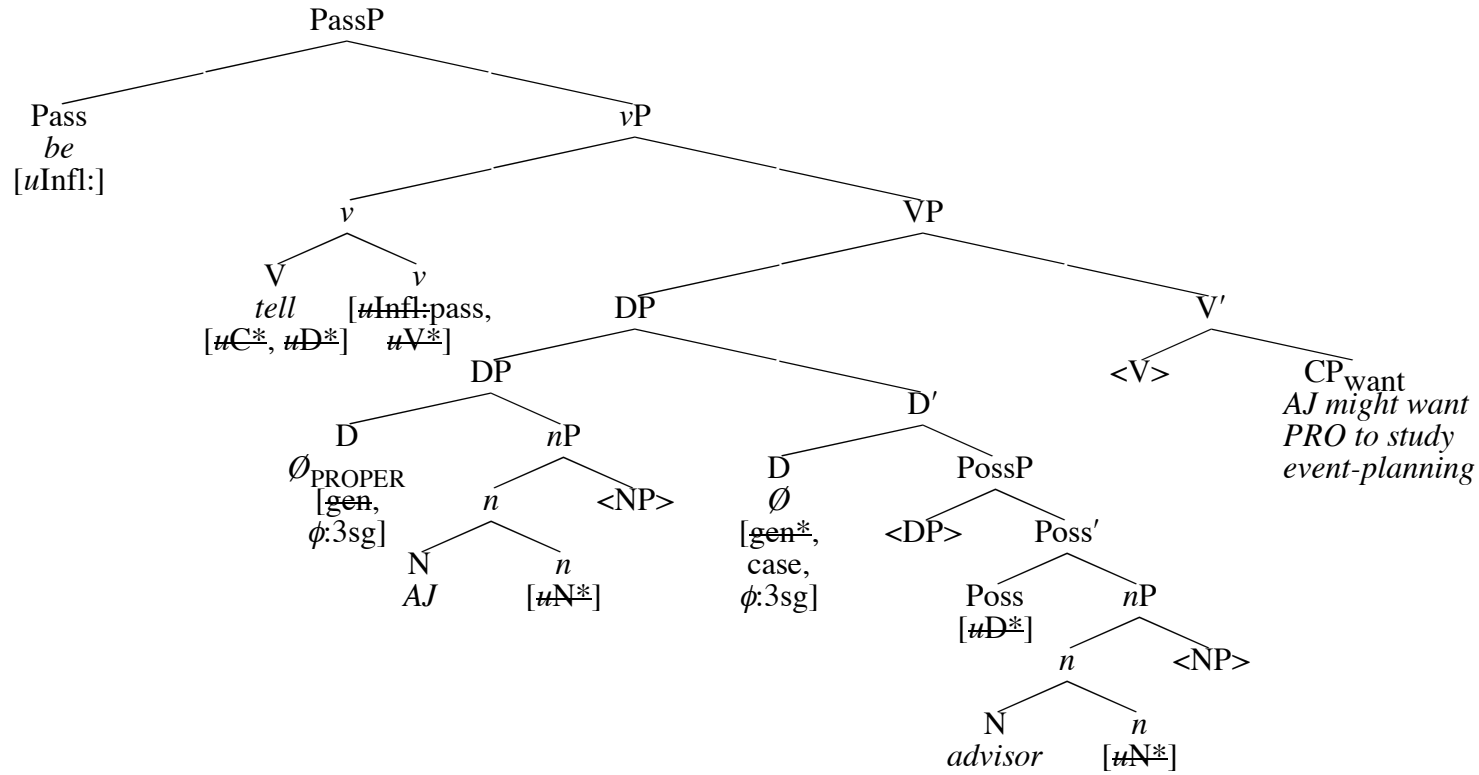




### Merge Pass with vP

HoP.

The category feature [Pass] matches, values, and checks the [uInfl:] feature of v.



## Merge T with PassP

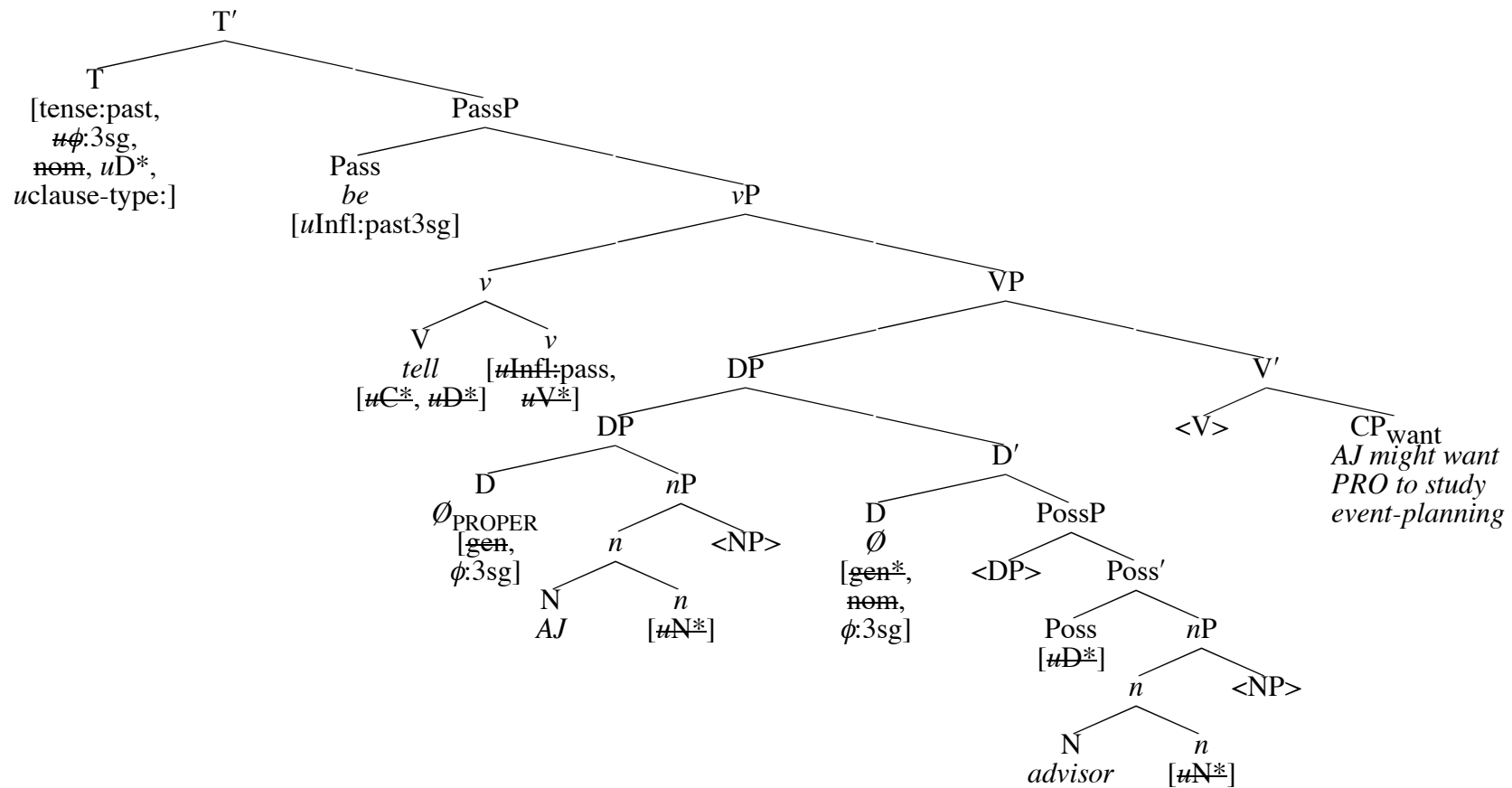
HoP.

The [nom] feature of T matches, values, and checks the [case] feature of *AJ's advisor*.

The [ $\phi$ :3sg] feature of *AJ's advisor* matches, values, and checks the [ $u\phi$ :] of T.

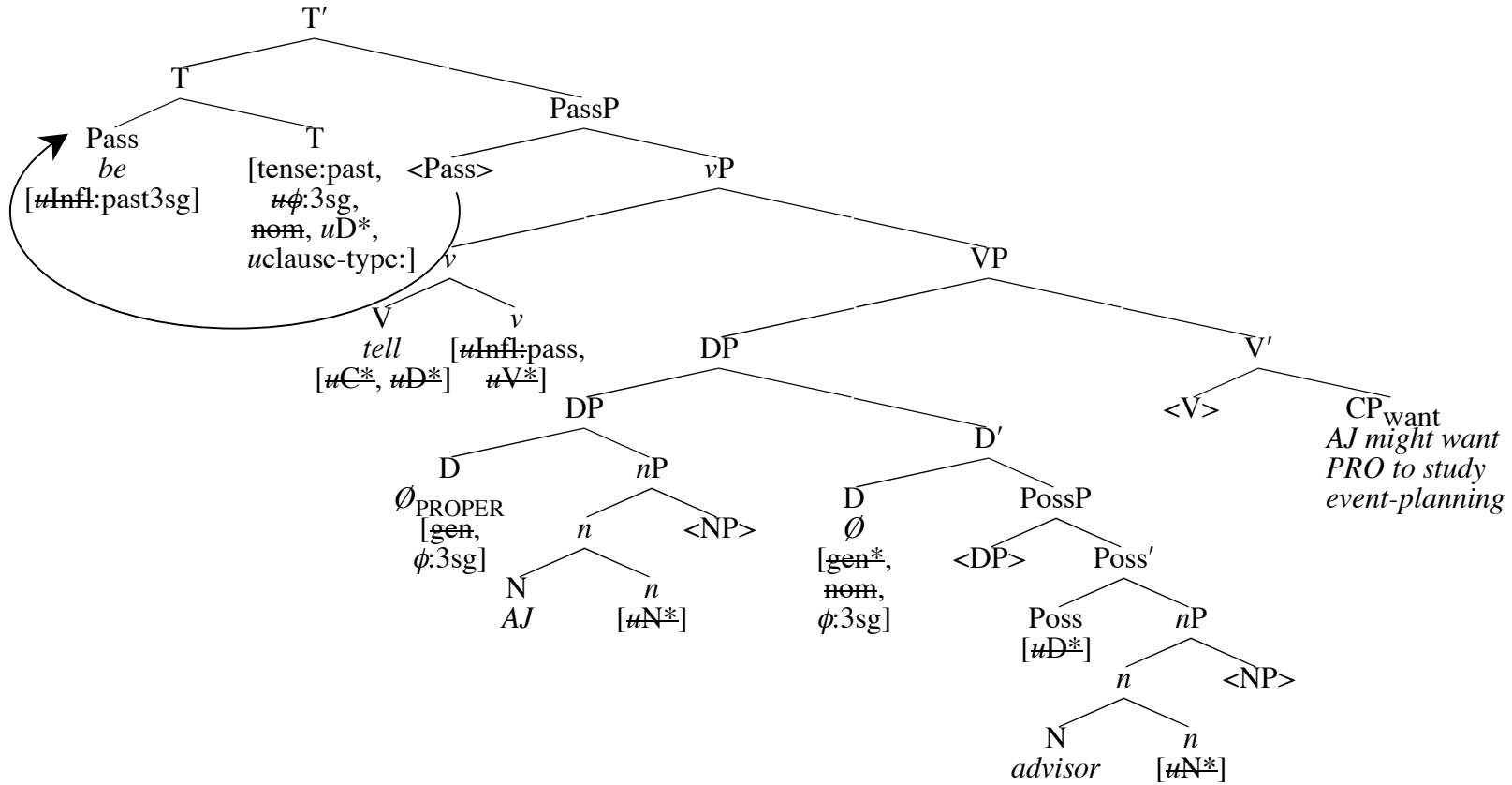
The feature [tense:past] matches, values the [ $u$ Infl:] feature of Pass (along with the  $\phi$  features).

It does not check, because when a tense features values a [ $u$ Infl:] feature of an auxiliary, it is strong.



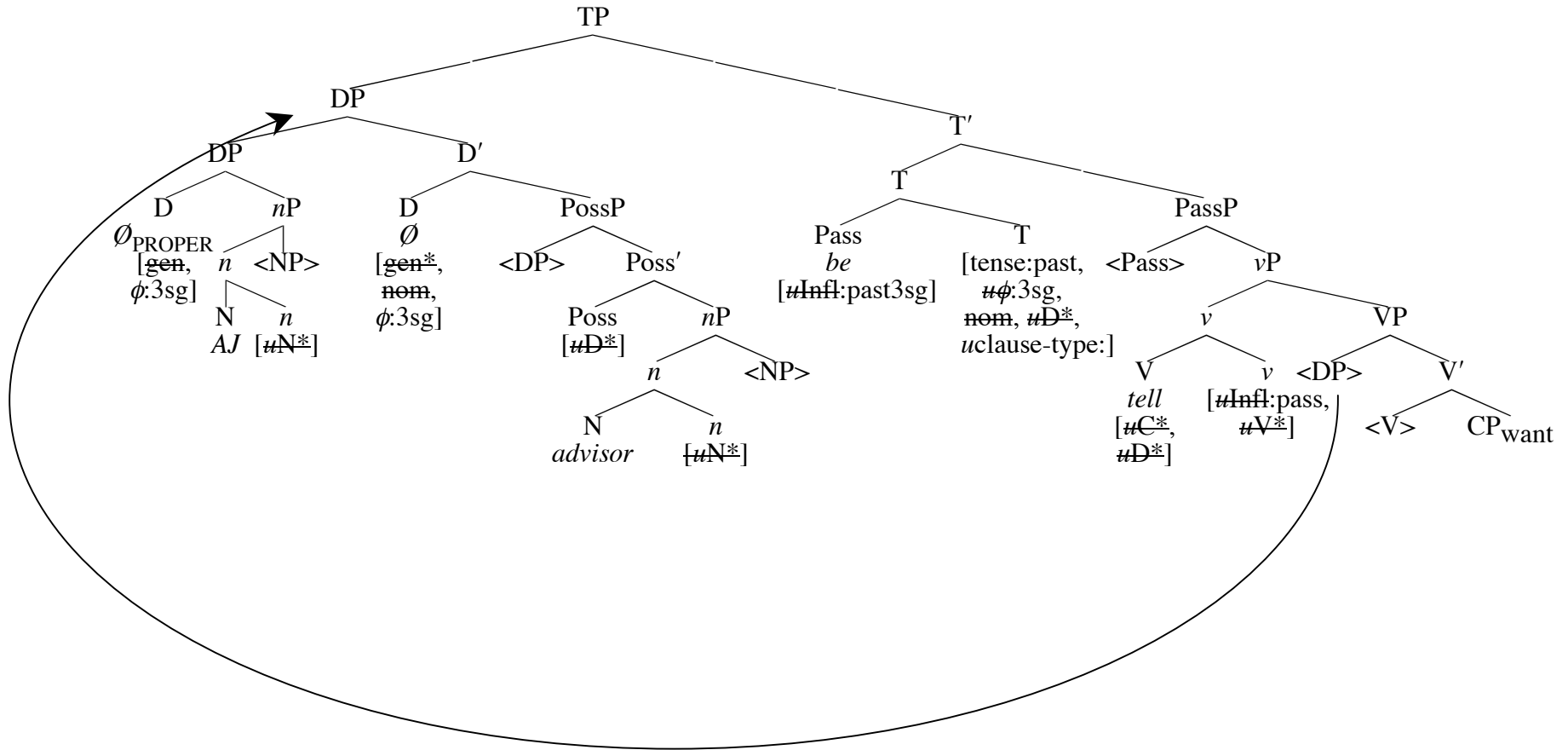
### Move Pass to T

This checks the [*uInfl:*] feature of Pass.



### Move *AJ's advisor* to SpecTP

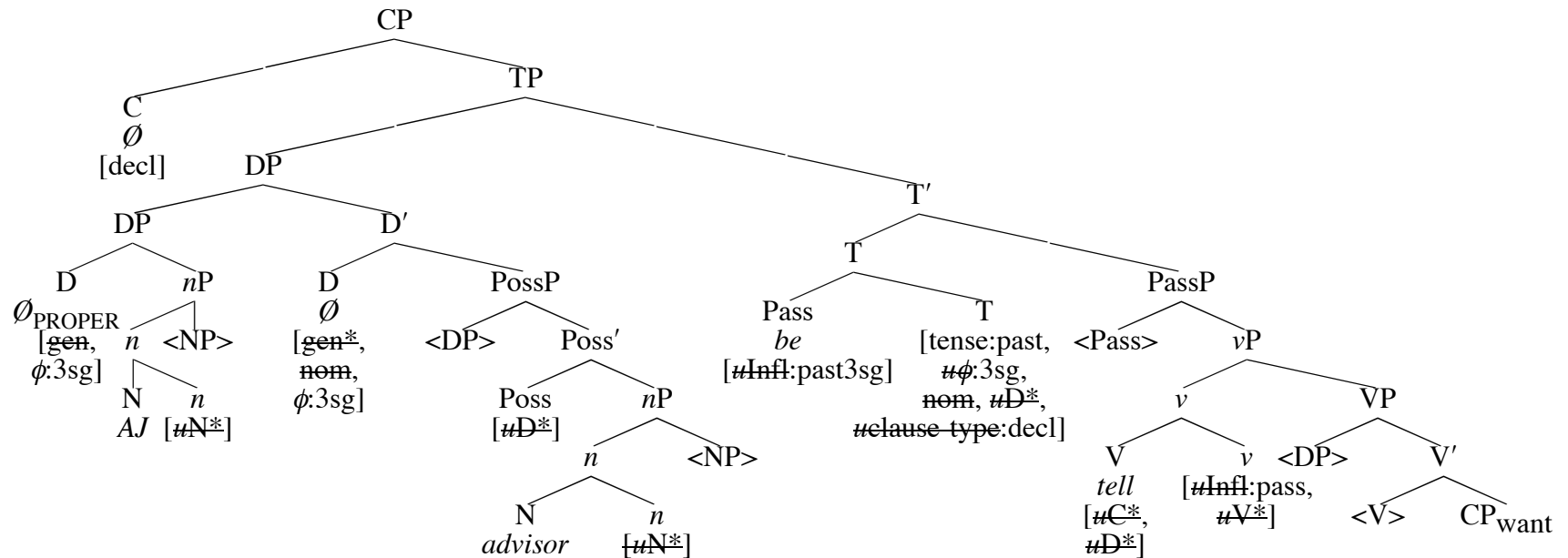
This checks the [ $\mu$ D\*] feature of T.



## Merge C and TP

HoP.

The [clause-type:decl] feature of C checks the [uclause-type:] feature of T.

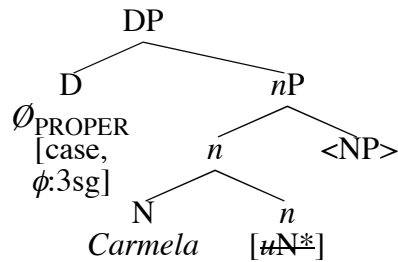


There, great. One more clause to go. We'll call the CP we just build  $CP_{\text{tell}}$ . This last one is pretty straightforward.

We'll start by building *Carmela*, which we'll need shortly:

**Merge *Carmela* and *n*, Move N to *n*, and Merge *nP* and  $\emptyset_{\text{PROPER}}$ .**

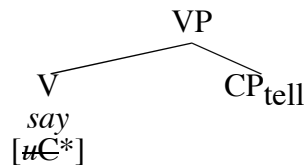
HoP. Check [ $uN^*$ ]. HoP.



**Merge *say* and  $CP_{\text{tell}}$ .**

*Say* is a transitive verb that takes a CP complement (it has a [ $uC^*$ ] feature).

Merging *say* with a DP will check the [ $uC^*$ ] feature of *say*.

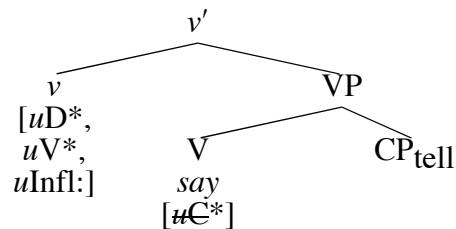


**Merge  $v$  and VP.**

HoP.

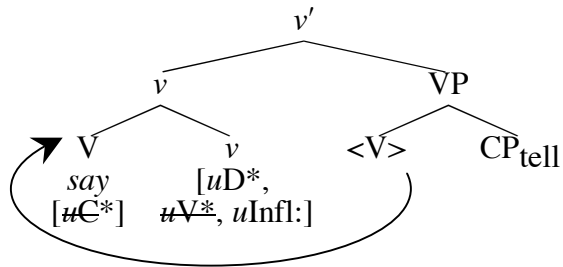
*Say* is a transitive verb, so the  $v$  has a [ $uD^*$ ] feature—it needs a DP that will receive the Agent  $\theta$ -role.

*Note:* Here too, like with *want*, we must assume that  $v$  doesn't have an [acc] feature, since it wouldn't have anything that could check it.



**Move V to v**

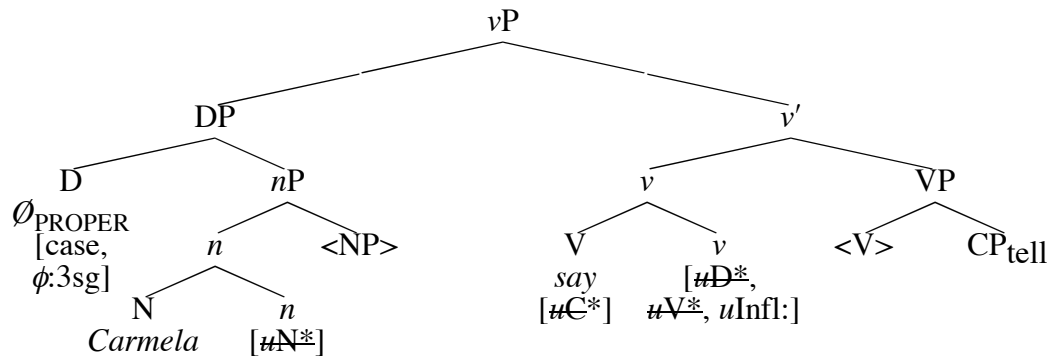
This checks the [ $uV^*$ ] feature of  $v$ .



**Merge v' and Carmela.**

The Agent of *say* is *Carmela*, the DP we built before.

This Merge checks the [ $uD^*$ ] feature of  $v$ , which is the last of  $v$ 's strong features. The  $v$  projects, for the last time, to  $vP$ .



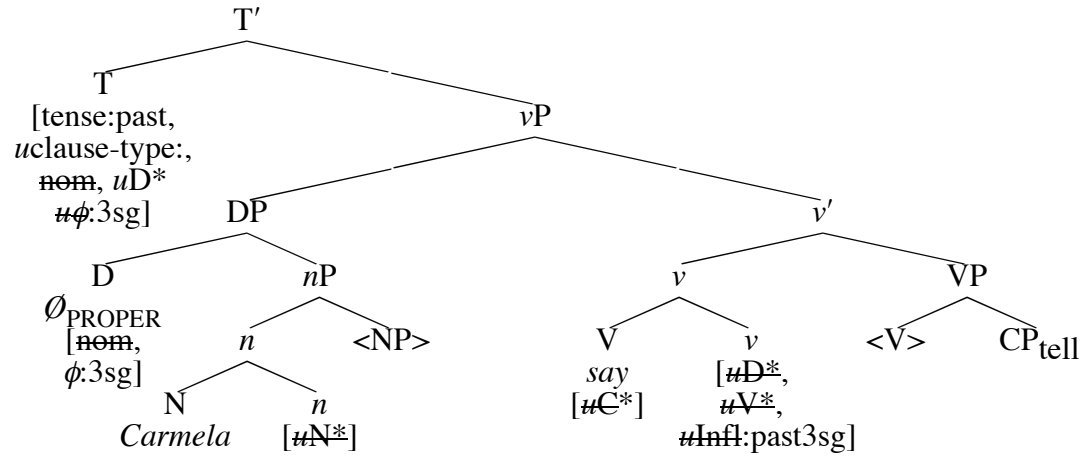
### Merge T and vP

HoP.

The [nom] feature of T matches, values, and checks the [case] feature of *Carmela*.

The [ $\phi$ :3sg] feature of *Carmela* matches, values, and checks the [ $u\phi$ :] of T.

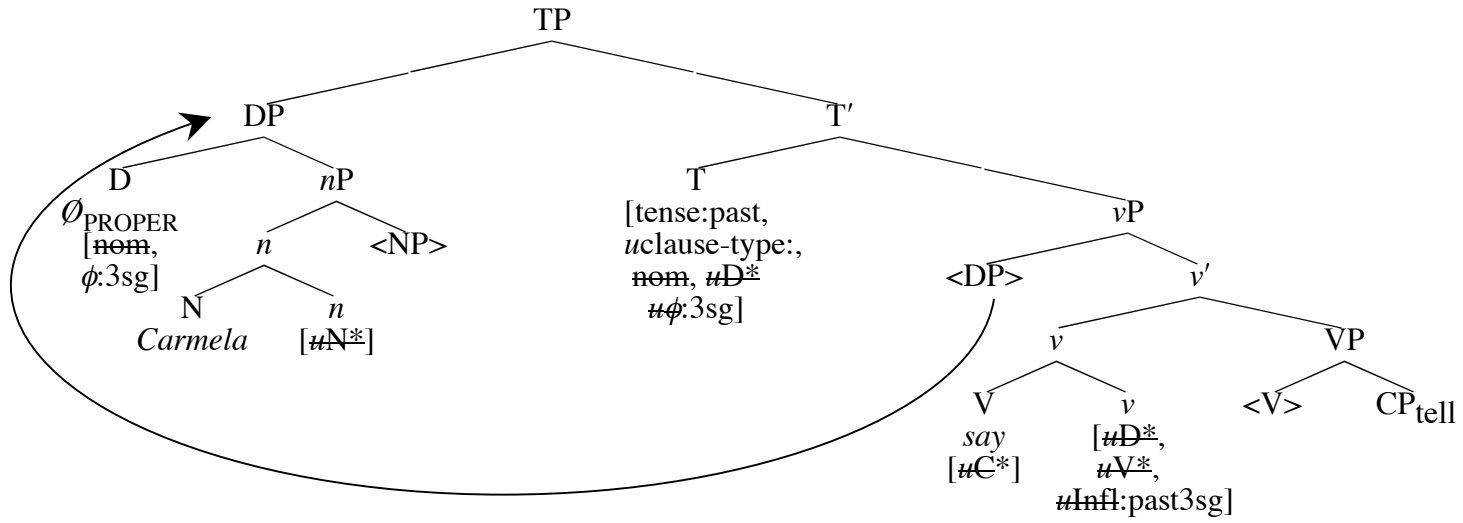
The feature [tense:past] matches, values, and checks the [ $uInfl$ :] feature of *v* (along with the  $\phi$  features).





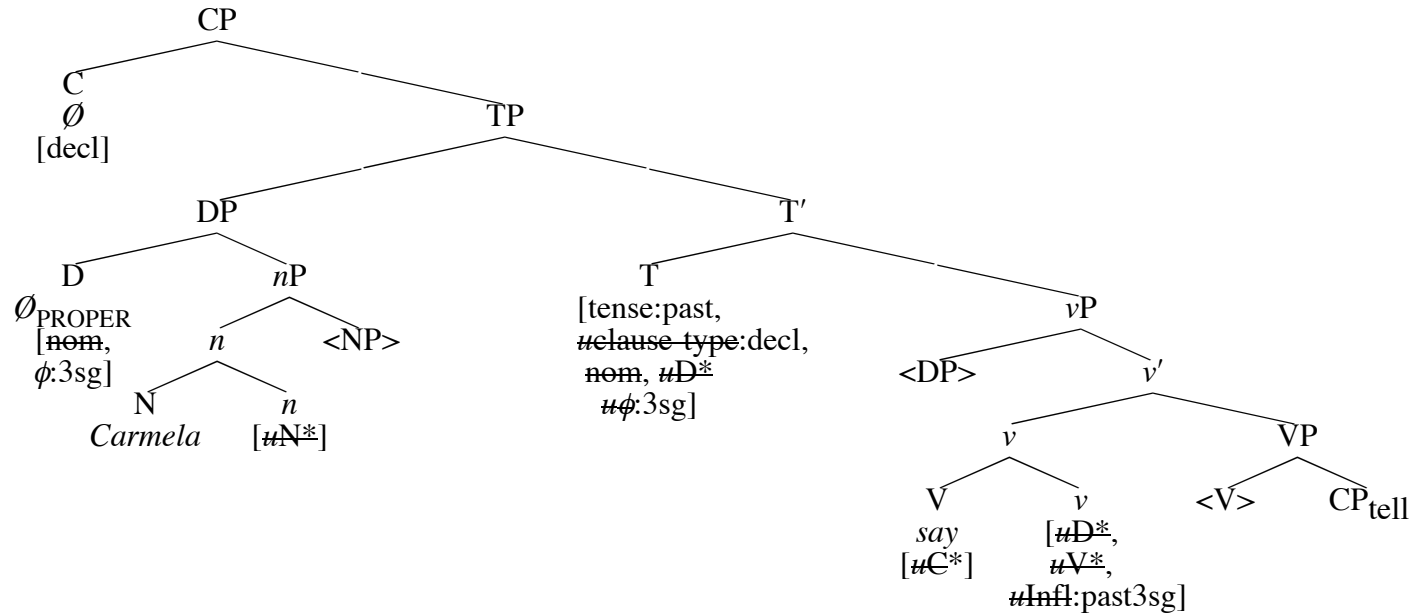
**Move *Carmela* to SpecTP**

Checks the [ $uD^*$ ] feature of T.



## Merge C and TP

The [clause-type:decl] feature of C matches, values, and checks the [*u*clause-type:] feature of T.



Fantastic. We're done, no uninterpretable features left to check.

You might perhaps find it amusing to see it all put together. See the last page.

Next sentence:

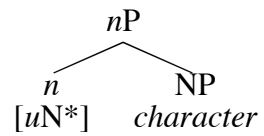
**The continuous drawing of complicated trees builds strong character.**

This one is much simpler, in that it doesn't have so many clauses. The main verb is *builds*. The subject is *The continuous drawing of complicated trees* and the object is *strong character*.

Let's start with *strong character*. *Character* here is a mass noun, so let's build it up.

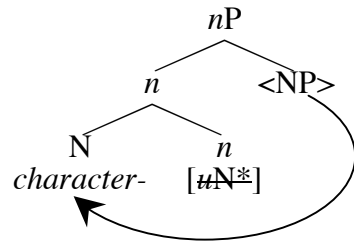
**Merge *character* and *n*.**

HoP.



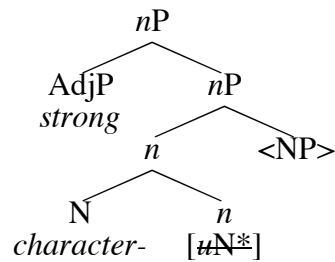
**Move N to *n*.**

This checks the [uN\*] feature of *n*.



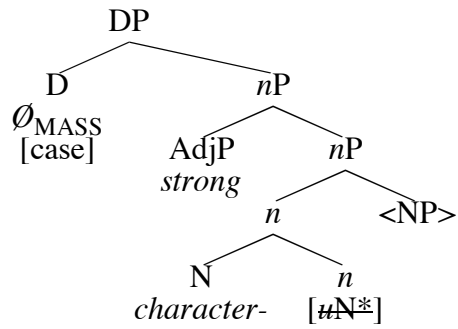
**Adjoin *strong* to *nP*.**

*Strong* is an adjective, which we adjoin to *nP*.



**Merge *nP* and  $\emptyset_{\text{MASS}}$ .**

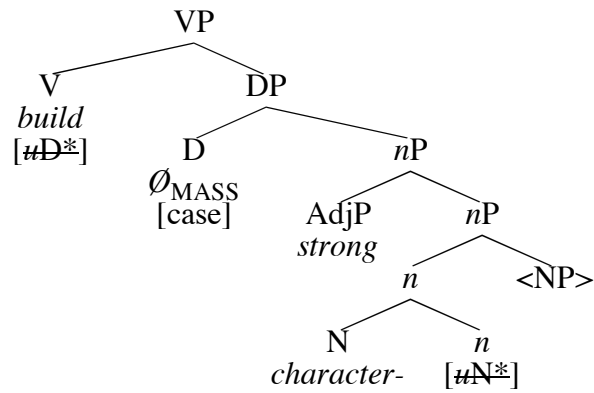
HoP.



Movin' on up, to the VP...

**Merge *build* and *nP***

*Build* is transitive, it has a [ $\mu\text{D}^*$ ] feature for the Theme. This Merge checks that feature.

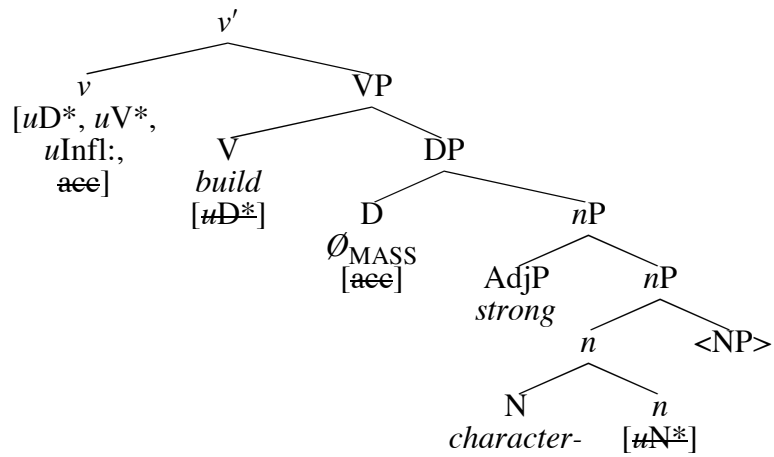


## Merge $v$ and VP

HoP.

*Build* is transitive, so the  $v$  has a [ $uD^*$ ] feature for the Agent, and a corresponding [ $acc$ ] feature.

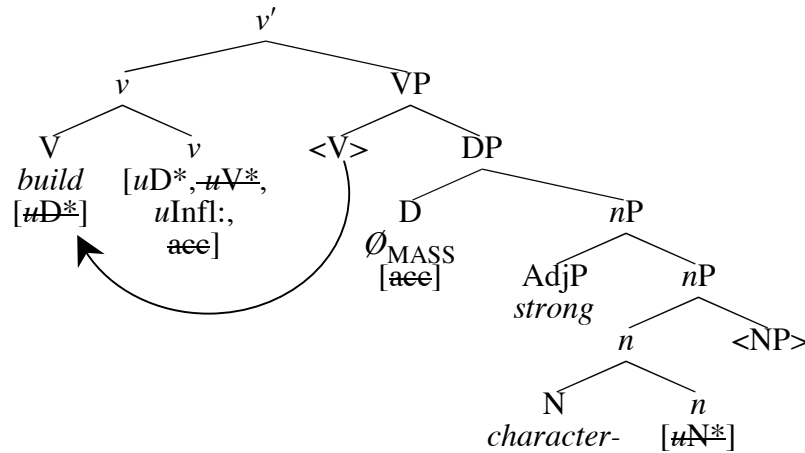
The [ $acc$ ] feature matches, values, and checks the [ $case$ ] feature on D.



### Move V to v

Checks the  $[uV^*]$  feature of  $v$ .

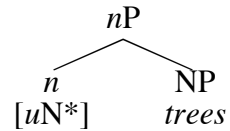
*Build* is transitive, so the  $v$  has a  $[uD^*]$  feature for the Agent, and a corresponding  $[acc]$  feature.



Now is where we would Merge the Agent, but we have to build it first, and it's pretty complicated: *The continuous drawing of complicated trees.*

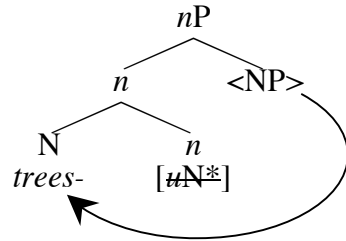
### Merge *trees* and $n$ .

HoP.



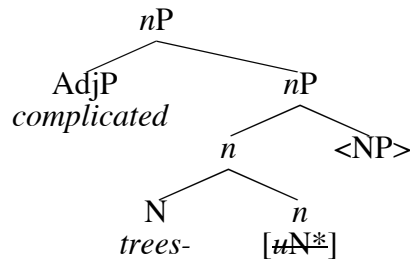
**Move N to n.**

This checks the [ $\mu$ N\*] feature of  $n$ .



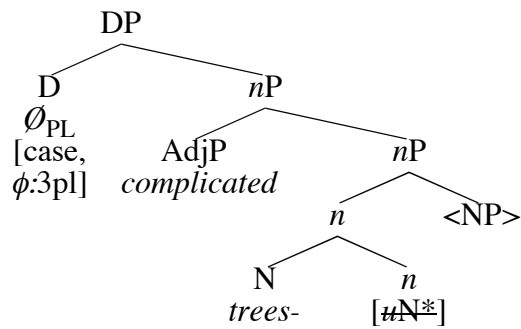
**Adjoin *complicated* to  $nP$ .**

*Complicated* is an adjective, which we adjoin to  $nP$ .



**Merge  $nP$  and  $\emptyset_{PL}$ .**

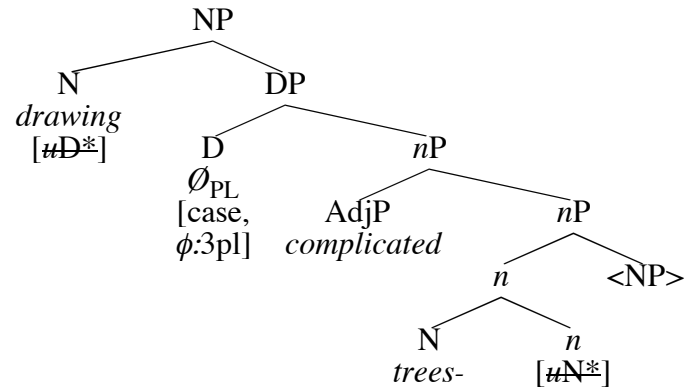
HoP.



*Drawing* is a (deverbal) transitive noun. In particular, it has a Theme  $\theta$ -role to assign, and a [ $uD^*$ ] feature to go with it.

**Merge *drawing* and DP (*complicated trees*).**

Checks the [ $uD^*$ ] feature of *drawing*.



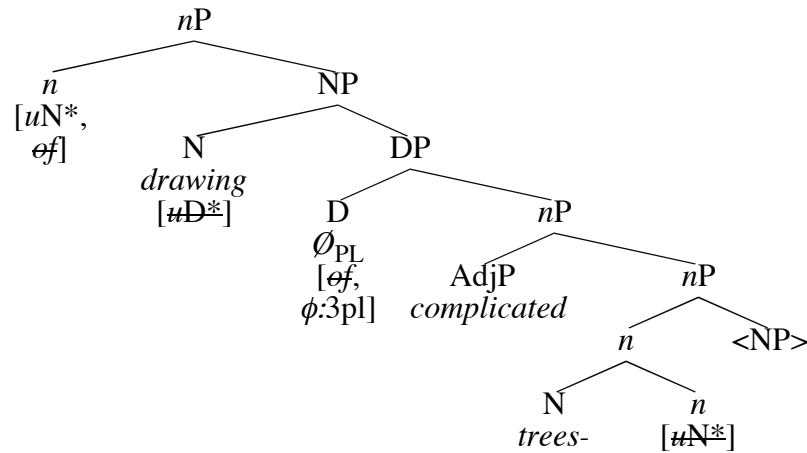


## Merge *n* and NP

HoP.

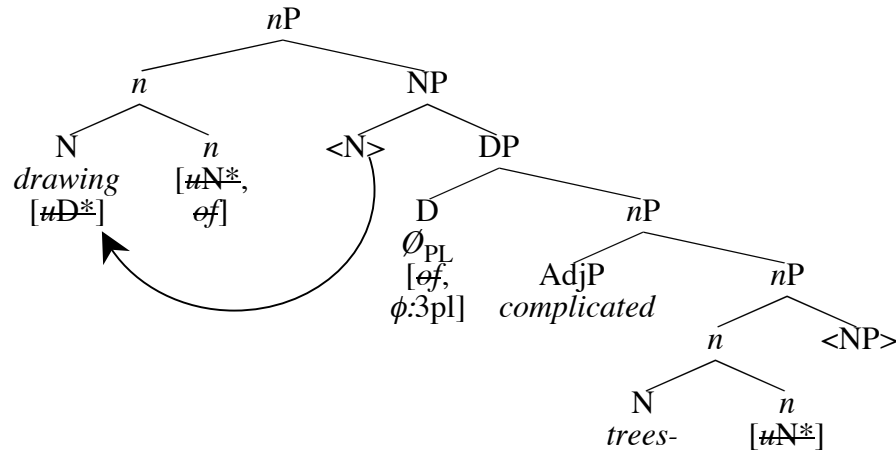
Looking ahead, we see that there isn't going to be an Agent (because the determiner is going to be *the*), so, this *n* does not have a [*uD\**] feature for an Agent. However, it still has the [*of*] case feature.

The [*of*] case feature of *n* values and checks the [*case*] feature on *complicated trees*, checking itself in the process.



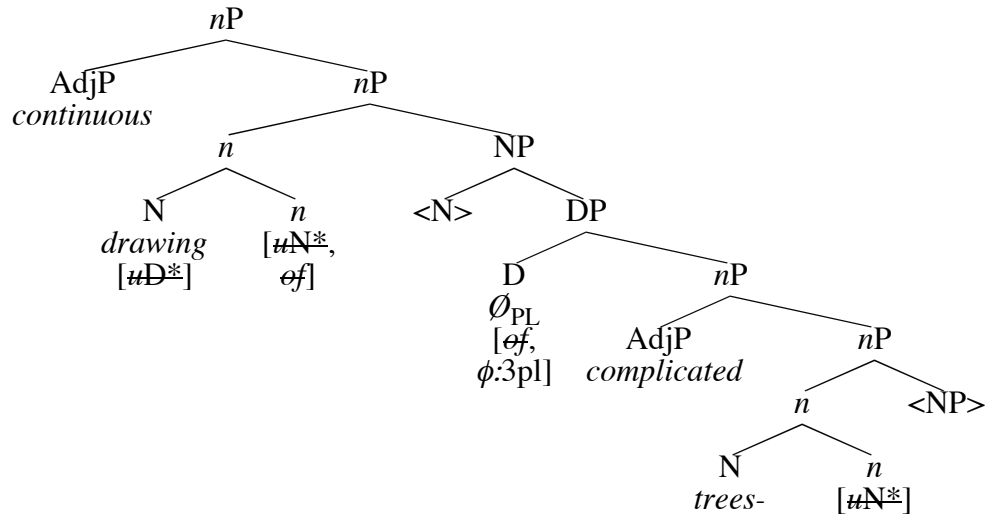
### Move N to n

Checks the [ $uN^*$ ] feature of  $n$ .

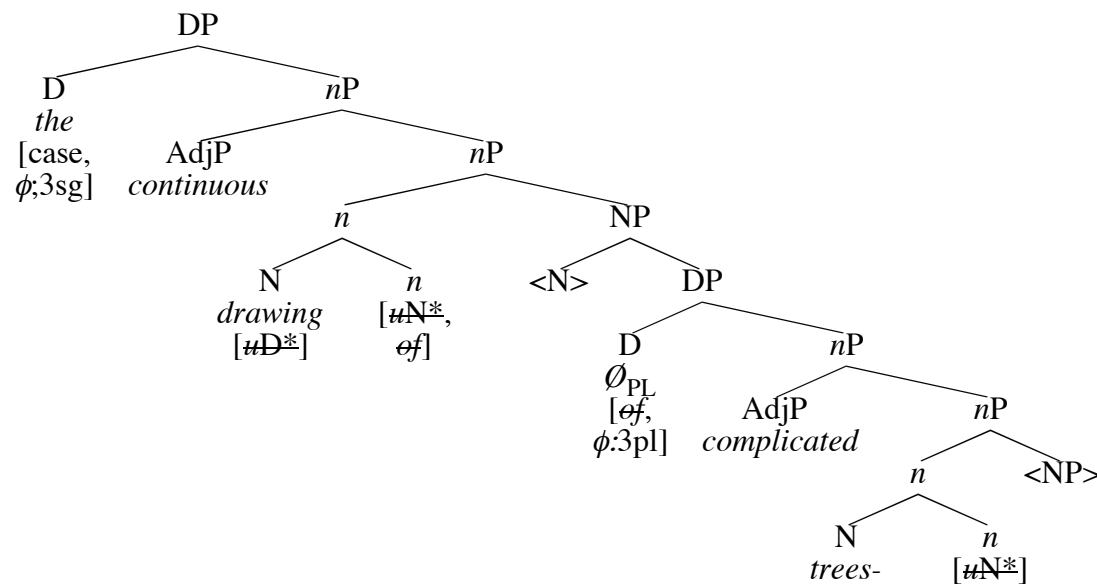


### Adjoin continuous to $nP$

*Continuous* is an adjective, so we adjoin it to  $nP$ .



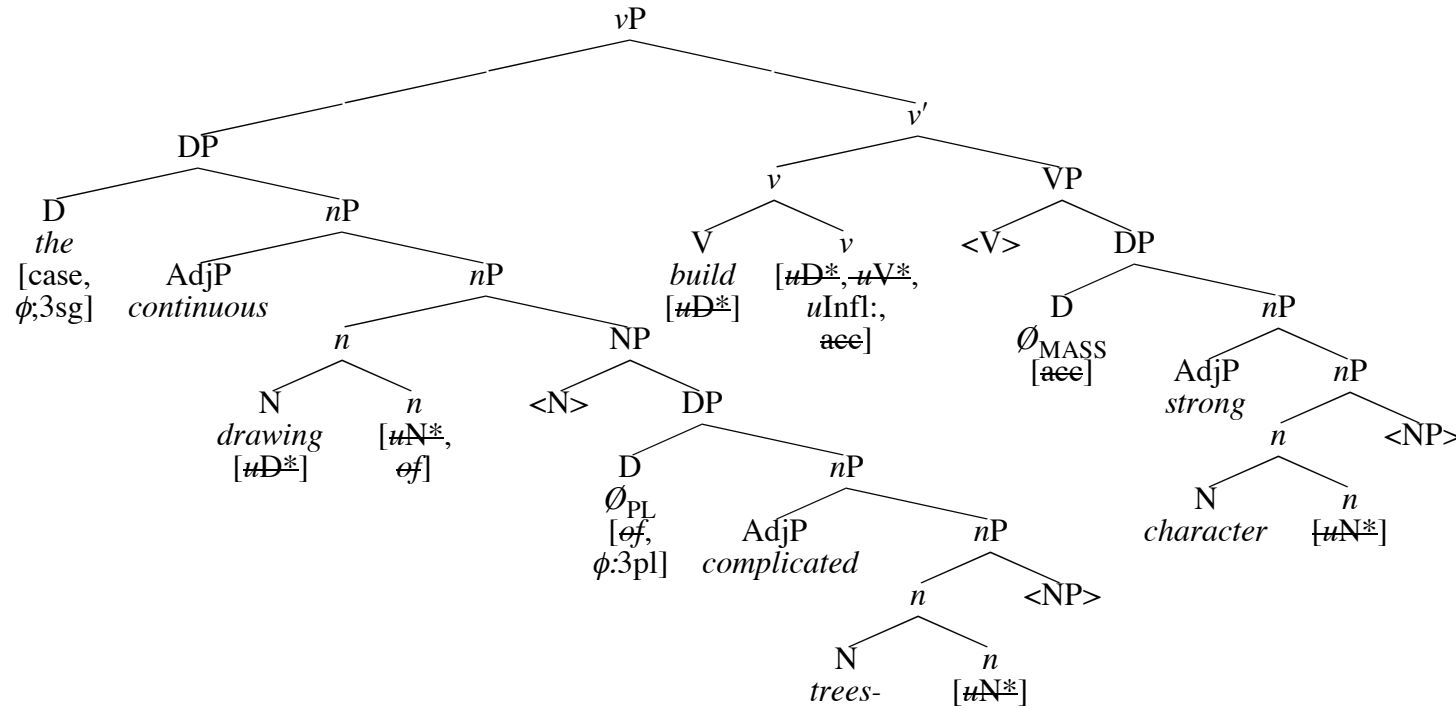
Merge *the* and *nP*  
HoP.



Ok, now we can get back to our main clause already in progress. We merge the DP we just built in with the *vP* as the Agent.

### Merge DP with vP

Checks the [ $uD^*$ ] feature of  $v$ .



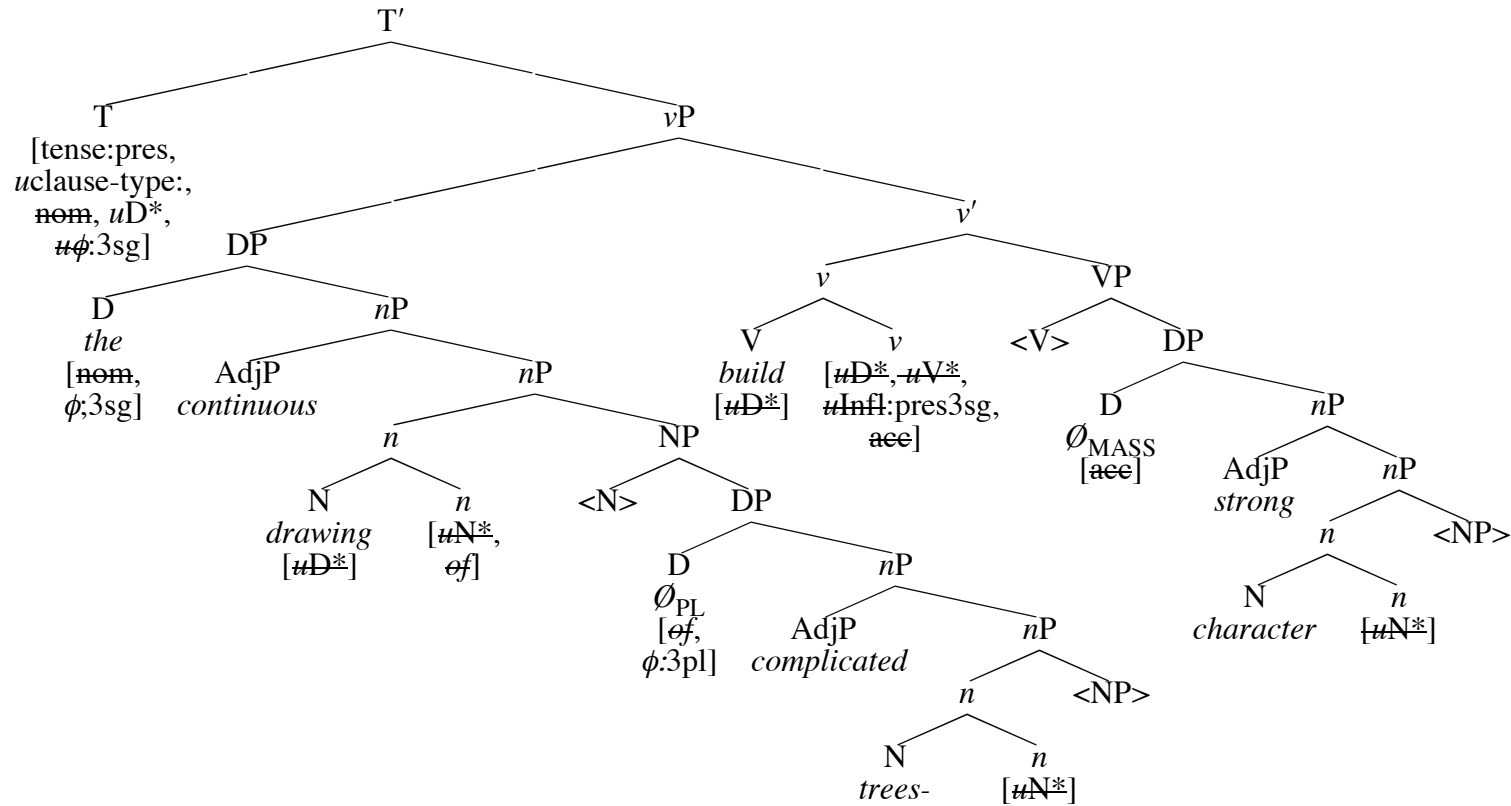
### Merge T with vP

HoP.

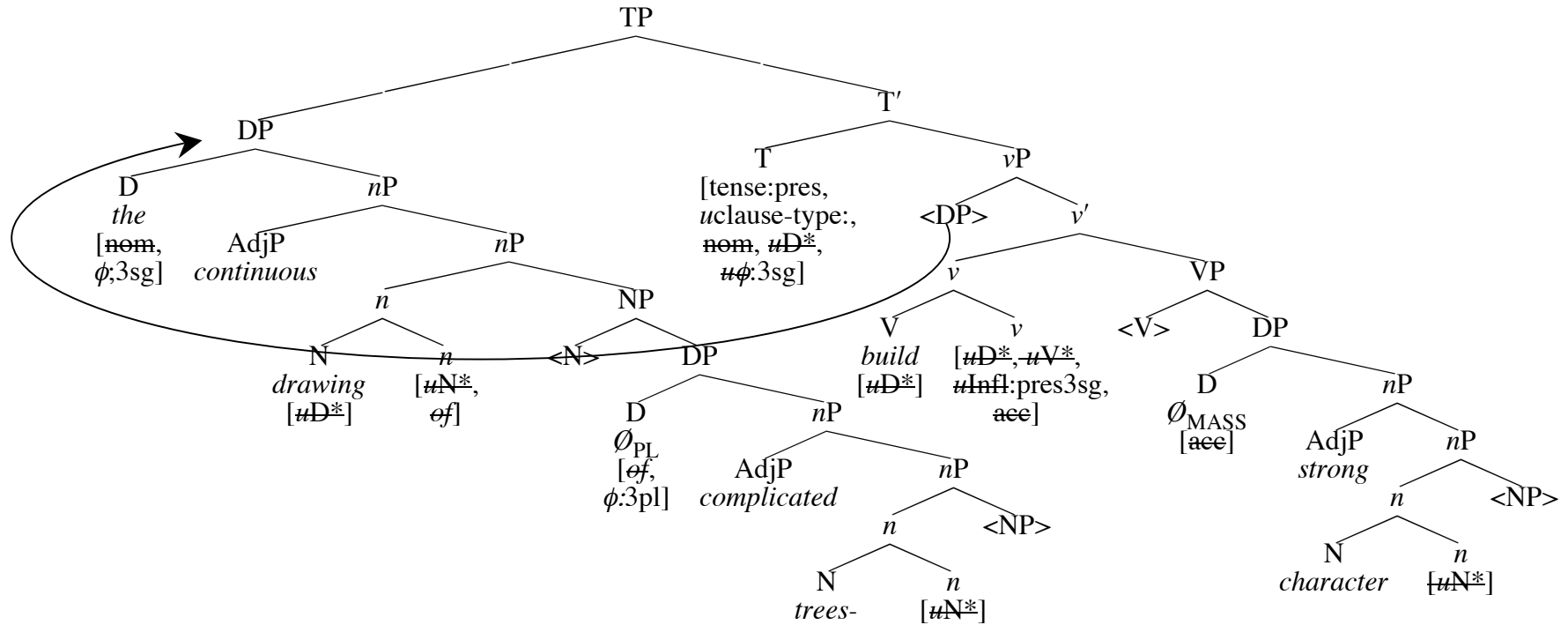
The [nom] feature of T matches, values, and checks the [case] feature of *the continuous drawing*....

The [ $\phi$ :3sg] feature of *the continuous drawing*... matches, values, and checks the [ $u\phi$ :] of T.

The feature [tense:pres] matches, values, and checks the [ $uInfl$ :] feature of *v* (along with the  $\phi$  features).



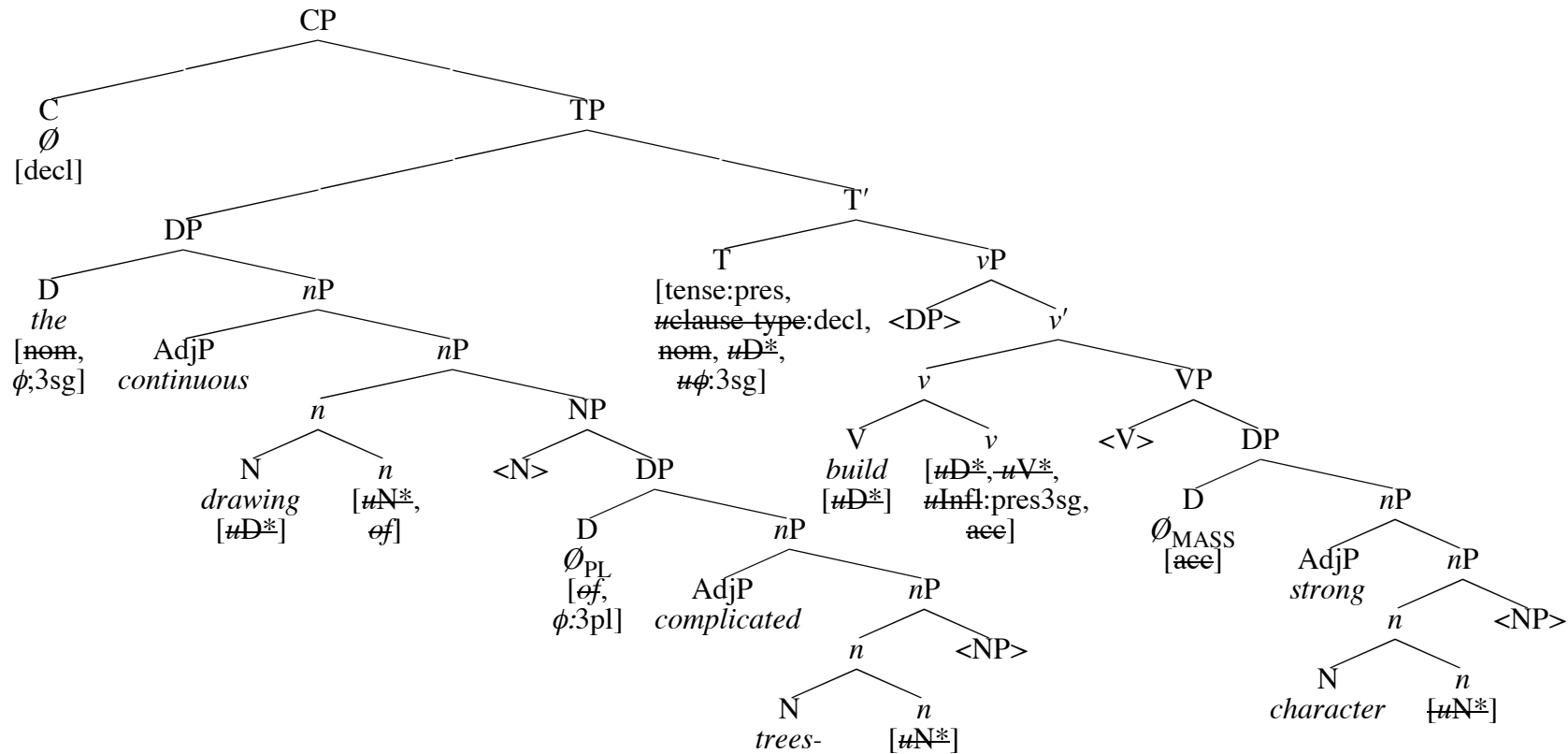
**Move the subject DP into SpecTP**  
 Checks the [ $\mu D^*$ ] feature of T.



## Merge C with TP

HoP.

Checks the [*u*clause-type] feature of T.



And we're done, no uninterpretable features left to check.

Carmela said AJ's advisor was told that AJ might want to study event-planning.

