# 1 I saw John's destruction of his hat

The basic example we're working with is:

(1) I saw John's destruction of his hat.

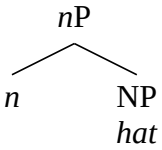
Step one is identifying what everything is: The main verb of the sentence is *see*, and it has an Experiencer (*I*) and a Theme (*John's destruction of his hat*). Within the theme, we have a nominalized sentence, with the main noun *destruction*, which has an Agent (*John*) and a Theme (*his hat*). Within *his hat*, we have a Possessor *his*.

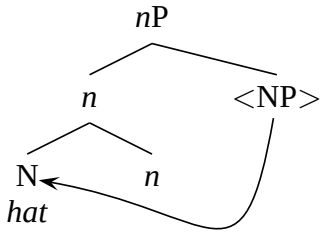
Starting with *his hat*. Here we have a head noun *hat*, and a possessor *his*. *His* is a pronoun, simple DP without internal structure (that is, it is a D that has no selectional features.) The relevant lexical items for building *his hat* are these:[1]

(2) a. 3msg [D, *u*case:, $\phi$:3msg]
b. *hat* [N, $\phi$:3sg]
c. *n* [*n*, *u*N*]
d. Poss [Poss, *u*D*]
e. $\emptyset_{\mathrm{GEN}}$ [D, *u*case: , *u*case:gen*]

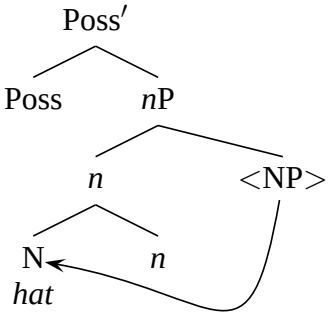
So: We start with *hat*, which is easy. It's done as soon as we pick it up, it doesn't need anything. The Hierarchy of Projections says that next up is *n*. Since this is not a deverbal noun, *n* doesn't have much to do either. We put it in because the Hierarchy of Projections requires it. After we Merge *n* and *hat*, the [*u*N*] feature Agrees with the [N] feature of *hat*, causing movement of *hat* to head-adjoin to *n*. As usual, the convention is that as a complement of *n*, the NP *hat* is labeled as an NP (it is the last time the features of N project), but when it is head-adjoined to *n*, it is labeled as an N (because only heads can adjoin to heads).

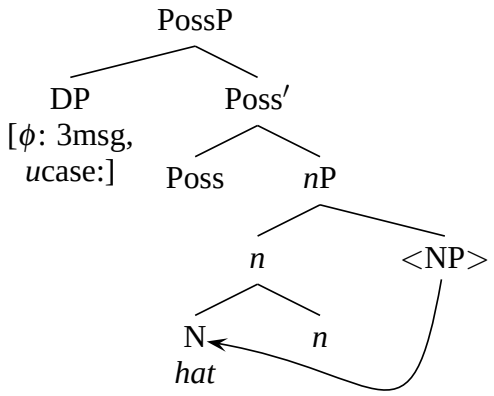
[1] It turns out that the system that we worked out, following Adger's discussion, simply does not work properly for agreement within the DP. This is not something we have time left to try to solve this semester, so let me just lay out the issues and thoughts about them. The initial question that prompted this concerns how to represent plurality in deverbal nouns—that is, differentiating between *his permutation of the numbers* and *his permutations of the numbers*. It is clear that the distinguishing number feature must be a property of *n* in this case, and so we might simply extend this to the claim that number is a property of *n* (not N). However, for the other $\phi$-features (gender, person), they belong conceptually on N. So, the $\phi$-features on *n* would seem to need to be a combination of the person and gender features of the N with an inherent number feature of *n*. Adger partly avoids this question by referring only to the number feature in his discussion ([*u*num:]). However, the much harder problem is the fact that we need to differentiate between *his piano* and *their piano*, both of which are singular DPs. In one case we have singular possessor and in the other case we have a plural possessor. Assuming D has a [*u*$\phi$:] feature, it would pick up a value from somewhere within its complement. When there is a possessor, the possessor is closer to D than the *n*P is. So D *should* agree with the possessor, yet we know that what we need to have happen is that the D agrees with its own *n*. This is the way in which the system simply doesn't work—right now, the system really predicts that a DP with a plural possessor is itself plural, so it incorrectly predicts that we can say **Their piano are heavy* and not *His pianos are heavy*. Given the intricacies here, policy-wise what we will do is generally not work out how $\phi$-features are assigned within a DP, but rather we will assume that by whatever magic, a DP has the "right" $\phi$-features on it (for the purpose of subject agreement, etc.). The only time $\phi$-features will come up inside a DP will be specifically when we need to differentiate between the articles *a(n)* and $\emptyset_{PL}$ (i.e. *hat* vs. *hats*), and here I will follow Adger in assuming that D has a [*u*num:] feature that is valued by a number feature on N.



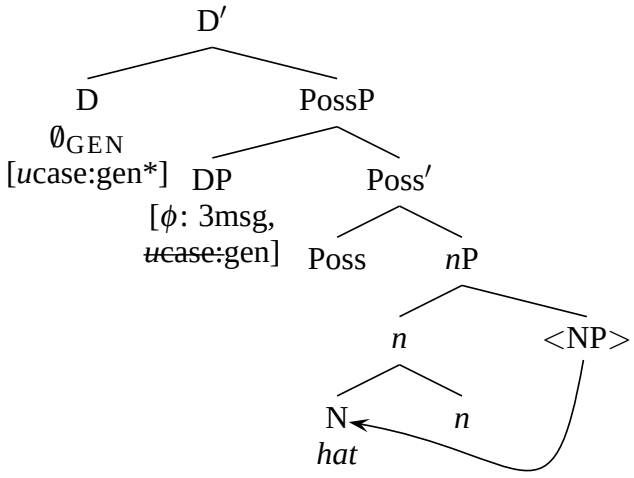



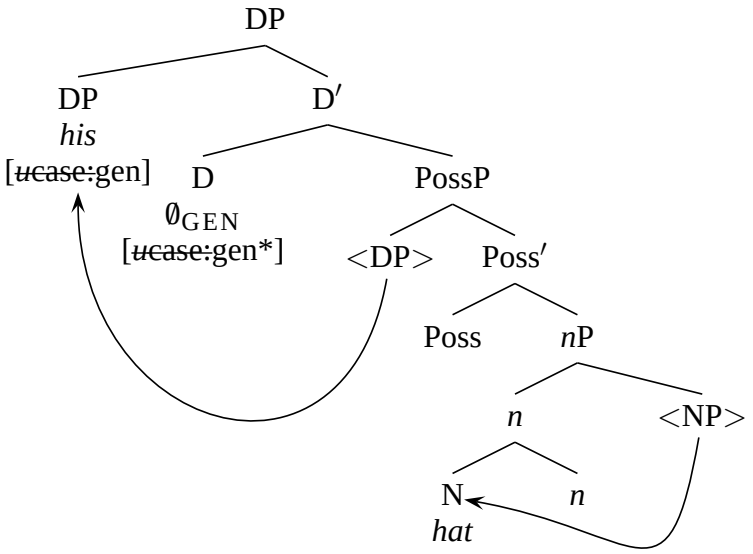

The next up on the Hierarchy of Projections is Poss, which introduces the possessor of the hat, *his*. (*His* is not really "his" quite yet—it is just a third person masculine singular pronoun. It will become *his* properly once it has been assigned genitive case.) So, we Merge Poss, then satisfy the [*u*D*] feature of Poss by Merging the 3msg pronoun (the possessor).




After this, the last thing in the Hierarchy of Projections is D, so we merge in $\emptyset_{\text{GEN}}$, which assigns genitive case to *his* and moves it into the specifier of DP.

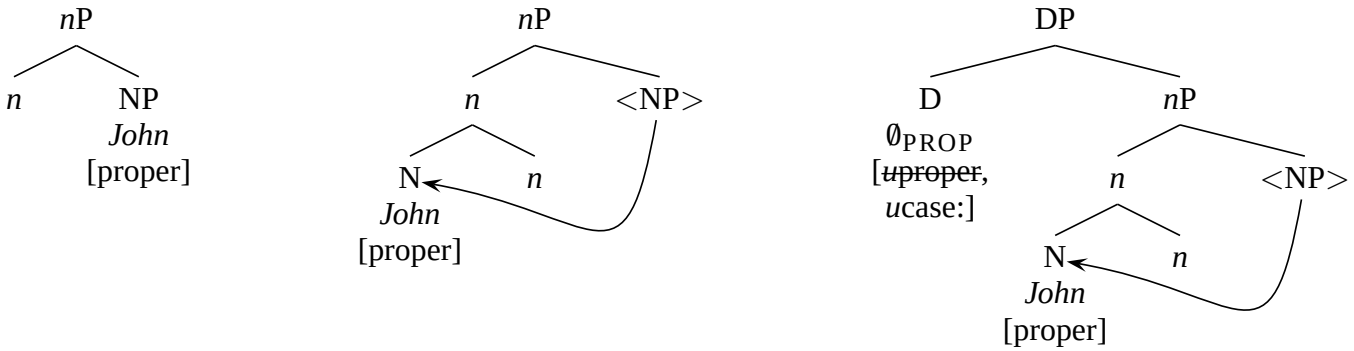





And thus we have *his hat*. Since we're going to need to construct *John's destruction of his hat*, the other thing we will need to construct is *John*. So, let's do that. The relevant items on the workbench for this are:

(3) a. *John* [N, proper, $\phi$:3sg]
b. *n* [*n*, *u*N*]
c. $\emptyset_{\text{PROP}}$ [D, *u*case:, *u*proper]

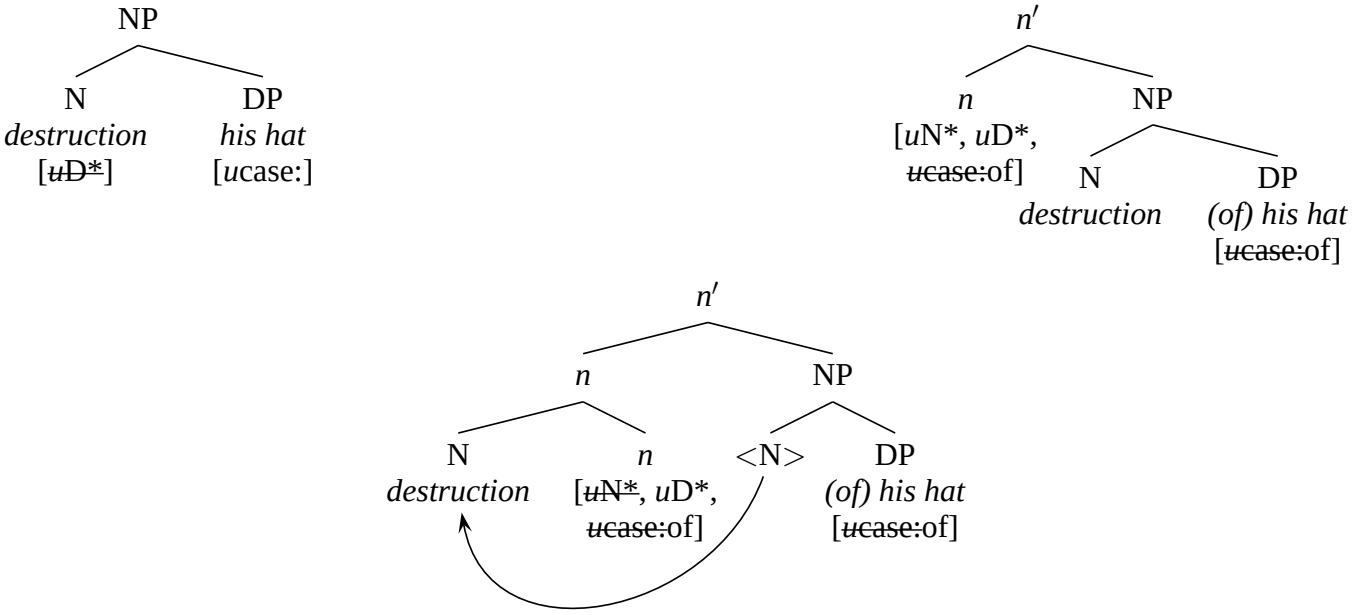
To create the DP *John*, we Merge the N *John* with *n*, causing N to move to *n*, then Merge $\emptyset_{\text{PROP}}$ with *n*P, like so:



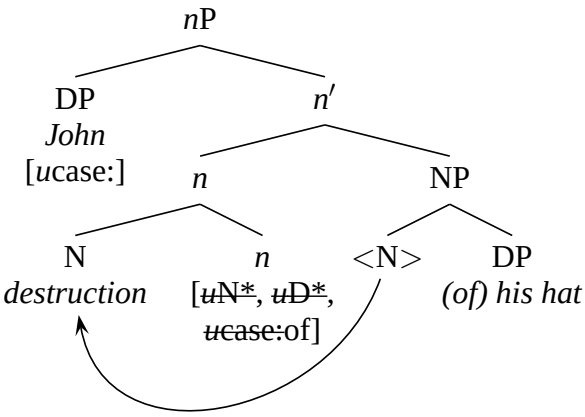

Now, we can move on to consider *destruction*. This has an Agent (*John*) and a Theme (*his hat*). The relevant stuff on the workbench at this point is:

(4) a. *his hat* (DP, constructed already)
b. *John* (DP, constructed already)
c. *destruction* [N, *u*D*]
d. *n*, [*n*, *u*N*, *u*case:of, *u*D*]
e. $\emptyset_{\text{GEN}}$ [D, *u*case:gen*, *u*case:]

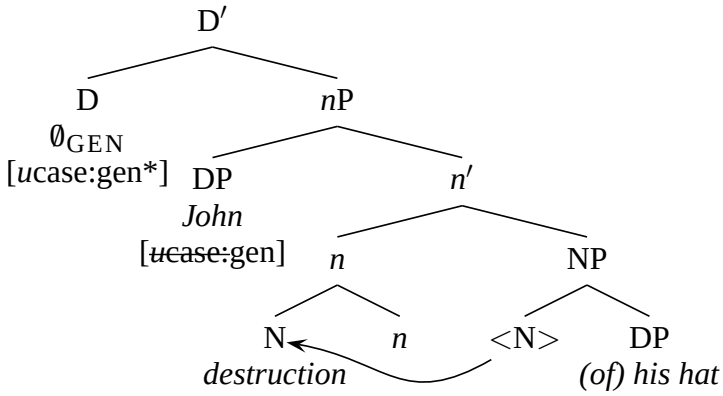
So, we start constructing this by putting *his hat* in the Theme position: The first Merge checks the [*u*D*] feature of *destruction*. After that, the Hierarchy of Projections tells us that *n* is next, so we Merge the NP and *n*. This values the [*u*case:] feature of *his hat* as [~~*u*case:~~of]. Then, the [*u*N*] feature of *n* is checked by raising N to head-adjoin to *n*.



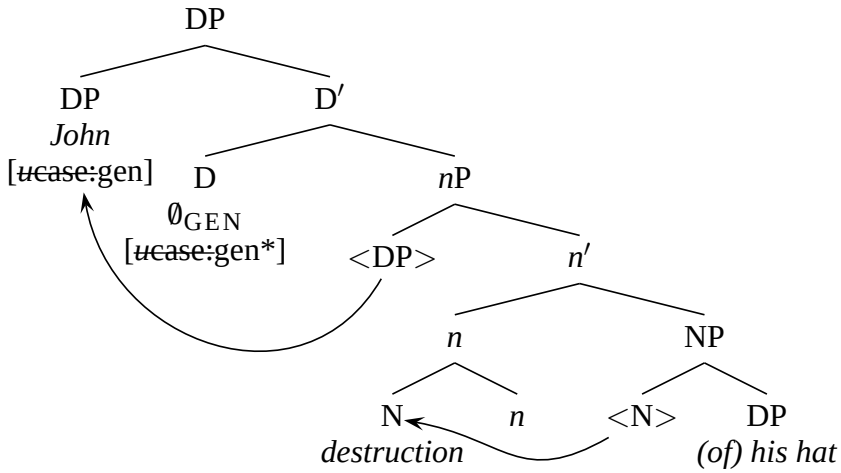

The *n* still has a [*u*D*] feature to check (for the Agent), so we Merge *John* to check that feature.




Now, finished with the *n*P, we move up the Hierarchy of Projections to D, and Merge $\emptyset_{\text{GEN}}$, which values the case feature of *John* as genitive, but doesn't check the feature on D yet because the feature is strong.



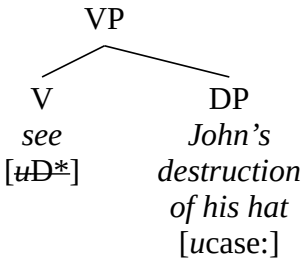

To check the [*u*case:gen*] feature of D, we move *John* up.

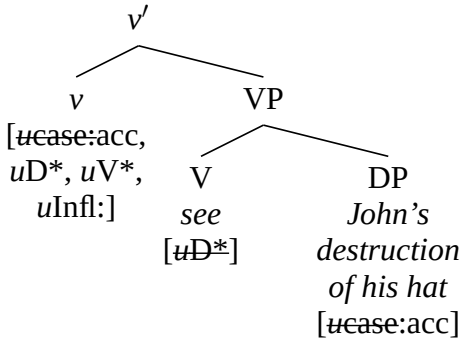


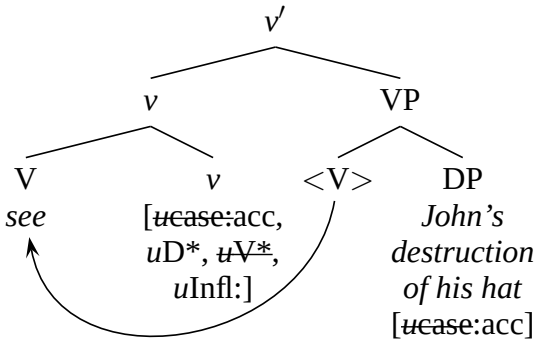

And thus we have *John's destruction of his hat.* All that is left now is to construct the whole sentence, of which this DP is a Theme. For this, the remaining relevant pieces are:

(5) a. *see* [V, *u*D*]
b. *v*, [*v*, *u*D*, *u*case:acc, *u*Infl:, *u*V*]
c. T, [T, tense:past, *uϕ*: , *u*case:nom, *u*D*]
d. *I*, [D, *ϕ*:1sg, *u*case: ]

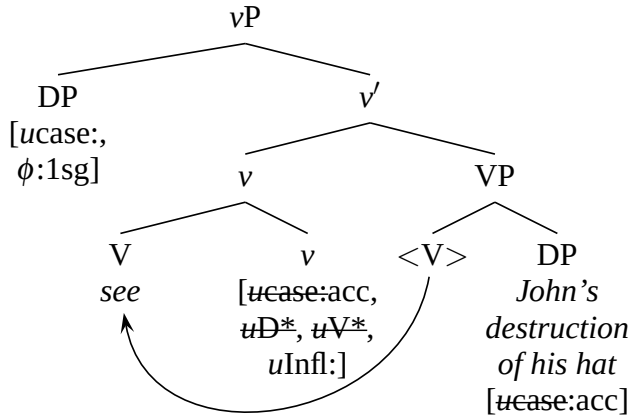
Building this up as usual, we first put *John's destruction of his hat* in the Theme position.



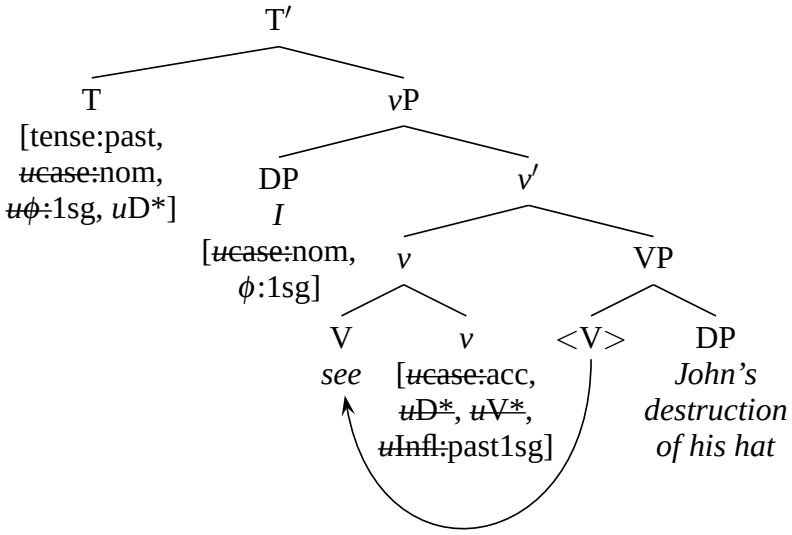



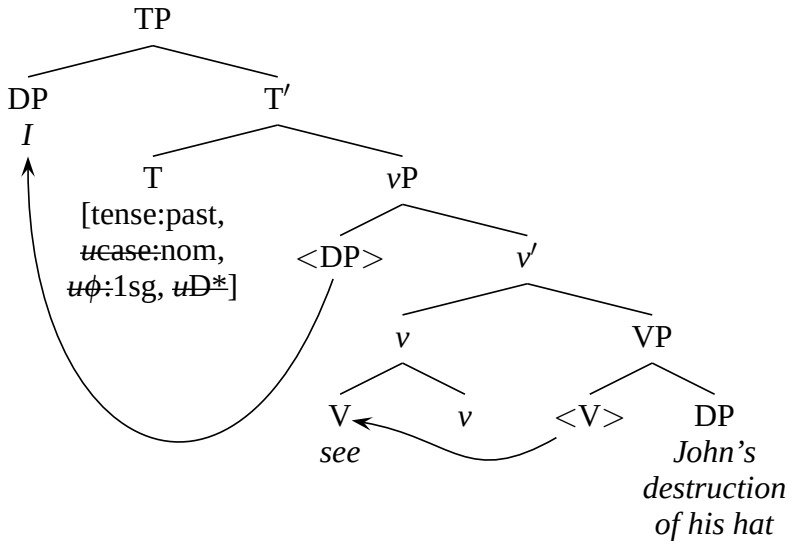

Then, we Merge in *I*, checking the [*u*D*] feature of *v*.



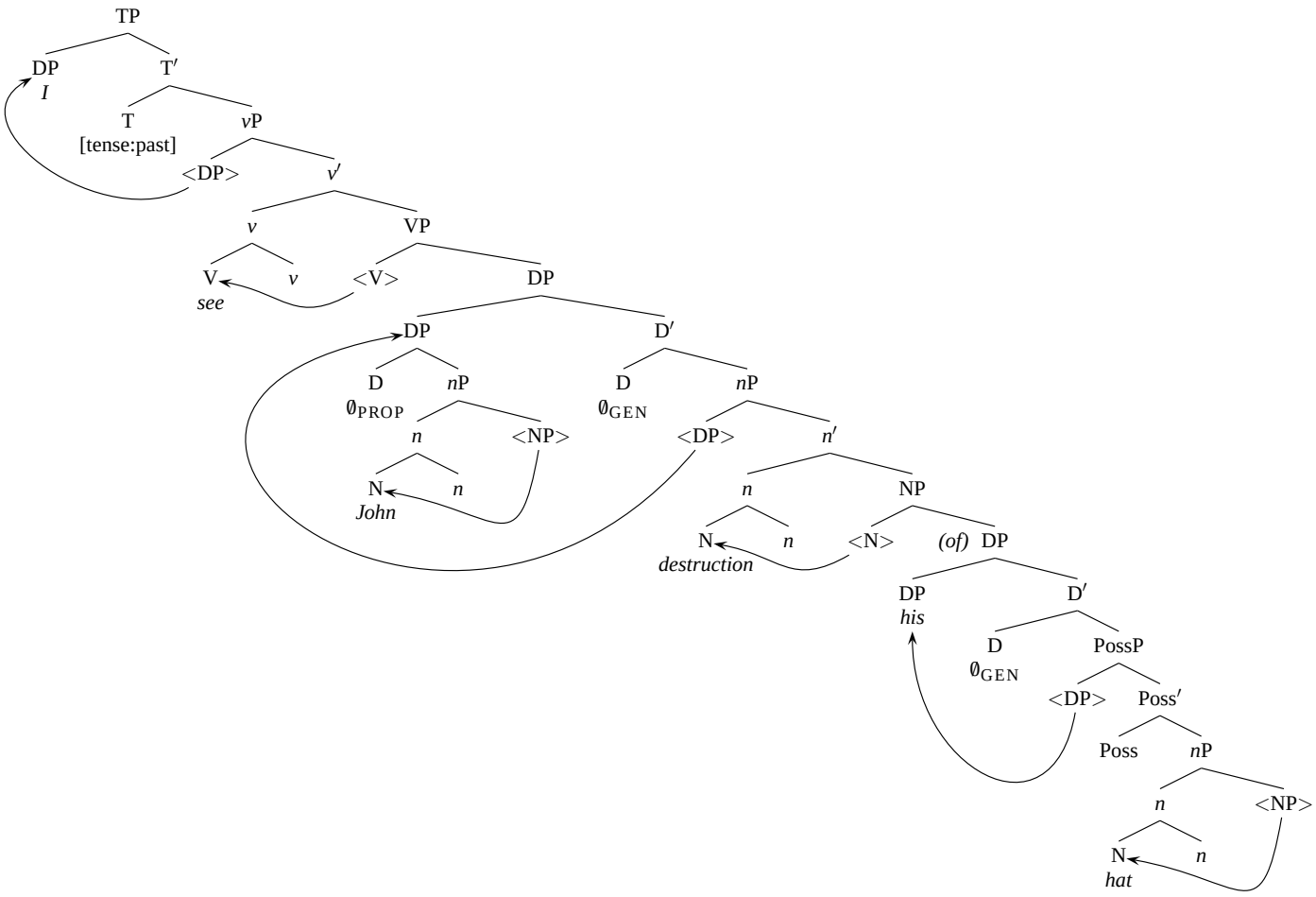

With *v*P now finished, the Hierarchy of Projections says that we move next to T. After we Merge T, the [*u*case:] feature of *I* is valued as nominative and checked. Then, the [*uϕ*:] feature of T is valued as 1sg and checked. Then the [*u*Infl:] on *v* is valued as past1sg and checked.




The last thing is to take care of the [*u*D*] feature of T, which is accomplished by moving *I* up.




And that's it. All that's left is to draw it all in one tree, for fun. Which looks like this: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