CAS LX 522 Syntax I
Fall 2011 December 6, 2011
Paul Hagstrom **Exercises**

The purpose of this document is to provide you with some examples to work with and explanations of the answers, since there has often been a relatively large leap between the examples e worked with in class and the ones you were asked to do on the homework assignments in terms of the complexity. So long as you understand the small pieces out of which the larger structures are built, I think it should not be so daunting to understand the larger structures. However, my impression has been that not everybody has quite understood the smaller structures, so that's where this comes in. The idea here is that I will work through some smaller examples and work up to some bigger ones, concentrating on different aspects of the structures. The best way to approach this is to try to draw the sample trees, then check what you did against what I did. Keep in mind that there is at least a slight chance *my* answers have errors.

Given the time constraints, this is the first of probably a couple of such exercises. I anticipate creating one like this that works with the structure of the DP and another that works with more the structures of embedded clauses. And something about case. And adverbs. And *wh*-movement. But I need to hand *something* out, so this (16 pages, still) is where I'll stop for now.

1 Getting the basic relationships

The first step in trying to draw a tree of a sentence is always to figure out what the main verb and θ-roles are, and what the inflections and auxiliary verbs are. So, here are a few to try. The first set involve just simple sentences. Identify the main verb, and, if there are any auxiliaries, identify those (as Perf, Prog, Pass, or Modal). Identify the inflectional form (past, perfect, progressive, passive) that the verb and auxiliaries take as well.

(1) a. I sang.
b. They mocked me.
c. I fainted.
d. They were arguing.
e. They had not expected that.
f. I was slapped.
g. I was being slapped.
h. I had been slapped.
i. They gave vodka to me.
j. They should have given water to me.
k. I gave them a dirty look.
l. I stumbled.
m. I might have been injured.

The second set involves one sentence embedded within another. This can happen with certain verbs that take whole sentences as their objects. So, for example, *say*, or *hear*, or *believe*, or *want*. These verbs can have regular DP objects, but they can also have whole sentences as objects. The θ-role that goes with an object that is a whole sentence is Proposition.

(2) a. They said I should not sing.

b. They think I sing poorly.
c. They told me that I should rest.
d. They want me to leave.
e. They told me to leave.
f. They heard that I was banned.
g. They claimed that the glasses broke.
h. They persuaded me to leave.
i. They promised to call me.
j. They checked that the door had closed.

2 Drawing the *v*P

Once you have determined what the θ-roles are, you are pretty much ready to draw the *v*P structures. Remember: There is always a *v*P and there is always a VP. The Hierarchy of Projections ensures that.

If there is a Theme or a Proposition or a Goal, then these are associated with the VP. The UTAH tells us where they go. In order for them to be Merged into the tree (remember, we're building these trees by scattering all of the words on the workbench, then picking them up in pairs, and putting them together using Merge, Move, and Adjoin—and if you use Merge, it has to be in order to check a feature), the V will need a strong feature that corresponds to the category of the argument. So, if you have a DP that is a Theme, then you know that V has a [*u*D*] feature (which enables the V and the DP to be Merged, since that will check the [*u*D*] feature). Similarly, if the verb has a Goal, then the V must have a [*u*P*] feature so that you can Merge the PP Goal and the V. If the V has a Proposition, then the Proposition is either a TP or a CP, and so the V needs either a [*u*T*] or a [*u*C*] feature.

If the V has *two* strong features like this (for example, if there is a Theme and a Goal, then the V has both a [*u*D*] for the Theme and a [*u*P*] feature for the Goal), then the VP that you draw will have three levels. The first level with have V and the PP Goal as sisters, under a node labeled V′, and then the second level will have the DP Theme and the V′ as sisters, under a node labeled VP. If the V has just *one* strong feature, then there will be no V′ node, since once you Merge the V and its argument together, V will have no strong features left to check, so we'll be done with the VP. "VP" means, essentially, the node representing the point where all of the strong features of V have been checked.

Once the VP is finished, the Hierarchy of Projections dictations the *v* and VP be Merged together. This does not check any features. **By stipulation**, *v* **always** has a [*u*V*] feature, but this feature cannot be checked by Merging *v* with VP (because Merging *v* and VP happens as a result of the Hierarchy of Projections). So, V will at this point **always** move up to adjoin to *v*.

Finally, if there is an Agent or an Experiencer, then *v* will have a [*u*D*] feature. In this case, even when the VP and *v* have been Merged together and V has moved up to *v*, there will still be a strong feature ([*u*D*]) to check. That means that *v* and VP will be sisters under a node labeled *v*′ and the Agent/Experiencer will be Merged with that node (checking the [*u*D*] feature), under a node labeled *v*P. If there is *no* Agent or Experiencer, then there will be no further strong features to check on *v* once V has moved up to *v*, and so *v* and VP will be sisters under a node labeled *v*P.

So, for this section, go through the sentences in (1) first and draw out the *v*Ps based on the θ-roles you worked out, and the UTAH.

3 From the *v*P to the TP

One the *v*P is done, then we work our way up the Hierarchy of Projections, putting in anything we have sitting around on the workbench for this sentence. This continues up to T. **By stipulation**, T **always** has a [*u*D*] feature (a.k.a. the "EPP feature"), so it is going to make the closest DP (e.g., the Agent, if there is one) Move up to become the specifier of TP. The TP, therefore, **always** has three levels. The T and the next thing down (e.g., MP, PerfP, ProgP, PassP, NegP, *v*P), are Merged together due to the Hierarchy of Projections, under a node labeled T′. Then the moved subject DP is Merged with T′ under a node labeled TP.

There is one other somewhat complex interaction that occurs at the point where T is added to the tree. What happens here depends on two things: (1) whether the sentence is finite (tensed) or infinitive, and (2) whether there are any auxiliaries (like M, Perf, Prog, or Pass).

If T is finite, then T is going to be mediating between the subject and the verb (or an auxiliary) in order to make them agree (i.e. *He leaves*, *They leave*, *He is leaving*, *They are leaving*). T basically takes the subject's ϕ-features (person, number, and gender) and then passes them on to the inflectional feature ([*u*Infl:]) of the verb/auxiliary that agrees with the subject. So, in order for T to get them in the first place, T has a [$u\phi$:] feature. Once T has them, it passes on *both* the ϕ-features of the subject *and* its own tense value ([tense:past] or [tense:pres]) down to the nearest [*u*Infl:] feature.

Furthermore, if T is finite *and* the word that agrees with the subject is an auxiliary that gets inflected, then the auxiliary moves up to T. This happens by saying that when T passes on the tense and agreement features down to the auxiliary, it also makes the features "strong," so that the auxiliary still hasn't quite got its [*u*Infl:] feature checked—it needs to move up to T in order to get those features checked.

If T is nonfinite, then we do not need to suppose that T has a [$u\phi$:] feature, because there is no agreement with the subject in an infinitive. (It doesn't really matter one way or the other if T has a [$u\phi$:] feature, because it won't pass them on to anything even if it does.) In this case, generally there will be a modal auxiliary *to*, but we are assuming that *to* is special in that it does not inflect (it has no [*u*Infl:] feature), and so it won't move to T and doesn't need any features from T either.

So, for this part, go through the sentences in (1) yet again, but now take the *v*Ps that you drew in the previous part, and add above them the rest of the trees. **Draw two trees for each**, the first one being just up to the point where you reach the T′ node, before any of T's features are checked off. Then draw a second tree, showing what happens after T's features are checked off (so, where the subject agreement has happened, where any auxiliary that is going to move to T has moved, and where the subject has moved to the specifier of TP.) In both trees, include the [*u*Infl:] features on *v*, Pass, Prog, and Perf, and show the values they got from the node above them, and include the [$u\phi$:] and [*u*D*] features on T. In at least the first tree, include the ϕ-features on the DPs getting θ-roles as well.

4 Embedding clauses within other clauses

A clause can serve as the argument of a verb, generally getting a Proposition θ-role. But what counts as a "clause" varies a little bit. A "clause" can be either a TP or a CP, and whether the argument of a verb is a TP or a CP depends on a couple of things.

In general, when a *declarative* sentence is embedded inside another one, sometimes it will be a TP and sometimes it will be a CP. Here's how to tell:

- If it is finite, it is a CP.

- If it is non-finite, then it is a CP if
  - The subject is PRO
  - There is evidence of CP (e.g., *wh*-movement)
- Otherwise (if it is non-finite), it is just a TP.

Draw trees to the sentences in (1). No key here, though, maybe online, maybe Thursday.

5 Answers

5.1 Key: Getting the basic relationships

In (1a) (*I sang*), *sing* is the verb (with past inflection), and *I* is the Agent.

In (1b) (*They mocked me*), *mock* is the verb (with past inflection), *they* is the Agent, and *me* is the Theme.

In (1c) (*I fainted*), *faint* is the verb (with past inflection), *I* is the Theme. Note: *I* is the Theme here because this is not something done intentionally, but something that happened to me. *Faint* is unaccusative. The difference between being a Theme and being an Experiencer is subtle, but I would say the rule of thumb is that where there is only one argument (like here), it is going to be a Theme. Cases where there are two arguments (like *I like cookies*) and where something *else* is clearly the Theme are going to be the ones where you might call the higher argument an Experiencer. There can't be two Themes.

In (1d) (*They were arguing*), *argue* is the verb (with progressive inflection), *be* is the Progressive auxiliary (with past inflection), and *they* is the Agent.

In (1e) (*They had not expected that*), *expect* is the verb (with perfective inflection), *have* is the Perfective auxiliary (with past inflection), *they* is the Agent, and *that* is the Theme.

In (1f) (*I was slapped*), *slap* is the verb (with passive inflection), *be* is the Passive auxiliary (with past inflection), and *I* is the Theme. The sentence is passive.

In (1g) (*I was being slapped*), *slap* is the verb (with passive inflection), *be* (the second one) is the Passive auxiliary (with progressive inflection), *be* (the first one) is the Progressive auxiliary (with past inflection), and *I* is the Theme. This sentence is also passive.

In (1h) (*I had been slapped*), *slap* is the verb (with passive inflection), *be* is the Passive auxiliary (with perfective inflection), *have* is the Perfective auxiliary (with past inflection), and *I* is the Theme. And, again, this sentence is passive.

In (1i) (*They gave vodka to me*), *give* is the verb (with past inflection), *they* is the Agent, *vodka* is the Theme, and *to me* is the Goal.

In (1j) (*They should have given water to me*), *give* is the verb (with perfective inflection), *have* is the Perfective auxiliary (with null inflection), *should* is a modal (with past inflection), *they* is the Agent, *water* is the Theme, and *to me* is the Goal.

In (1k) (*I gave them a dirty look*), *give* is the verb (with past inflection), *them* is the Theme, and *a dirty look* is the Possessee.

In (1l) (*I stumbled*), *stumble* is the verb (with past inflection), *I* is the Theme.

In (1m) (*I might have been injured*), *injure* is the verb (with passive inflection), *be* is the Passive auxiliary (with perfect inflection), *have* is the Perfect auxiliary (with null inflection), *might* is a modal (with past inflection), and *I* is the Theme. The sentence is passive.

Now, on to the second set, where we have one sentence inside another one.

In (2a) (*They said I should not sing*), the main verb is *say* (with past inflection), and the embedded verb is *sing* (with null inflection). For the main clause, *they* is the Agent, and *I should not sing* is the Proposition. For the embedded clause, *I* is the Agent, and *should* is a modal (with past inflection).

In (2b) (*They think I sing poorly*), the main verb is *think* (with present inflection), and the embedded verb is *sing* (with present inflection). For the main clause, *they* is the Agent (or, you could also say Experiencer), and *I sing poorly* is the Proposition. For the embedded clause, *I* is the Agent.

In (2c) (*They told me that I should rest*), the main verb is *tell* (with past inflection), and the embedded verb is *rest* (with null inflection). For the main clause, *they* is the Agent, *me* is the Theme, and *that I should rest* is the Proposition. For the embedded clause, *I* is the Agent, and *should* is a modal (with past inflection).

In (2d) (*They want me to leave*), the main verb is *want* (with present inflection), and the embedded verb is *leave* (with null inflection). For the main clause, *they* is the Agent (or better, Experiencer), and *me to leave* is the Proposition. For the embedded clause, *me* is the Agent, and *to* is a modal (with no inflection). Note on this one: *me* is *not* the Theme of *want*. *Want* is a two-place verb, there is a wanter and there is something wanted. *Me* plays no role in the wanting, but it does play a role in the leaving.

In (2e) (*They told me to leave*), the main verb is *tell* (with past inflection), and the embedded verb is *leave* (with null inflection). For the main clause, *they* is the Agent, *me* is the Theme, and *PRO to leave* is the Proposition. For the embedded clause, *PRO* is the Agent, and *to* is a modal (with no inflection). Note on this one: There is a PRO in this one, because *me* is the Theme of *tell* (*me* plays a role in the telling). It seems like *me* also plays a role in the leaving, but it is not possible for one DP (like *me*) to be simultaneously a Theme of the main verb and an Agent of the embedded verb. We need two DPs for those two θ-roles, and so one of them (the lower one) must be PRO. Notice how similar this sounds to (2d), too, but they are fairly different.

In (2f) (*They heard that I was banned*), the main verb is *hear* (with past inflection), and the embedded verb is *ban* (with passive inflection). For the main clause, *they* is the Agent, and *that I was banned* is the Proposition. For the embedded clause, *I* is the Theme, and *be* is a Passive auxiliary (with past inflection). The embedded clause is passive.

In (2g) (*they claimed that the glasses broke*), the main verb is *claim* (with past inflection), and the embedded verb is *break* (with past inflection). For the main clause, *they* is the Agent, and *that the glasses broke* is the Proposition. For the embedded clause, *the glasses* is the Theme. Note on this one: *break* here is unaccusative, it has just a Theme.

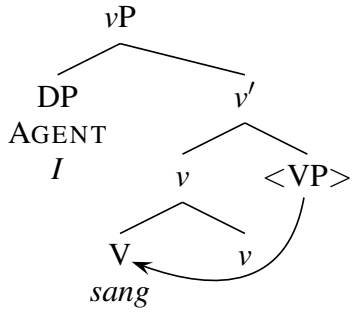
In (2h) (*They persuaded me to leave*), the main verb is *persuade* (with past inflection), and the embedded verb is *leave* (with null inflection). For the main clause, *they* is the Agent, *me* is the Theme, and *PRO to leave* is the Proposition. Like in (2e), there is a PRO here, because *me* plays a role in the persuading, and feels like it also plays a role in the leaving, except that isn't possible (different verbs giving different θ-roles to the same DP), so the lower DP must be PRO. For the embedded clause, *PRO* is the Agent, and *to* is a modal (with no inflection).

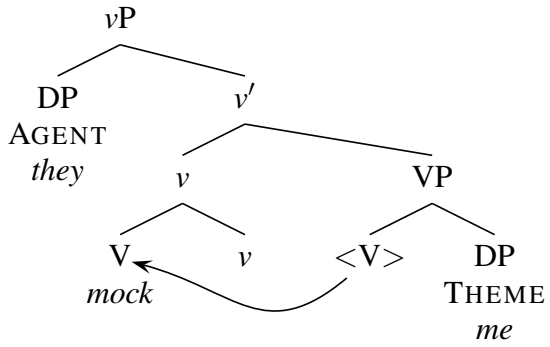
In (2i) (*They promised to call me*), the main verb is *promise* (with past inflection), and the embedded verb is *call* (with null inflection). For the main clause, *they* is the Agent, *me* is the Theme, and *PRO to call me* is the Proposition. For the embedded clause, *PRO* is the Agent (the ones who would be doing the calling), *me* is the Theme, and *to* is a modal (with no inflection).

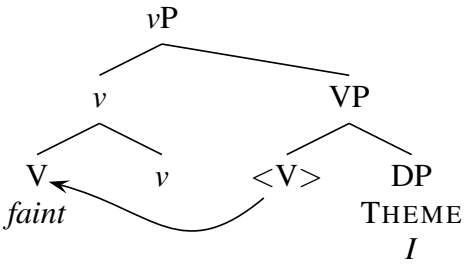
In (2j) (*They checked that the door had closed*), the main verb is *check* (with past inflection), and the embedded verb is *close* (with perfective inflection). For the main clause, *they* is the Agent, and *that the door had closed* is the Proposition. For the embedded clause, *the door* is the Theme, and *have* is a Perfective auxiliary (with past inflection).

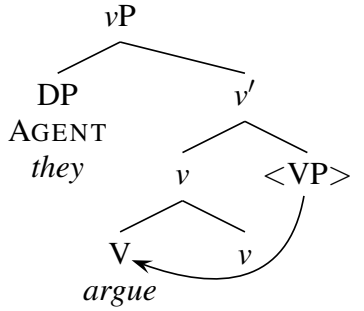
5.2 Key: Drawing the *v*P

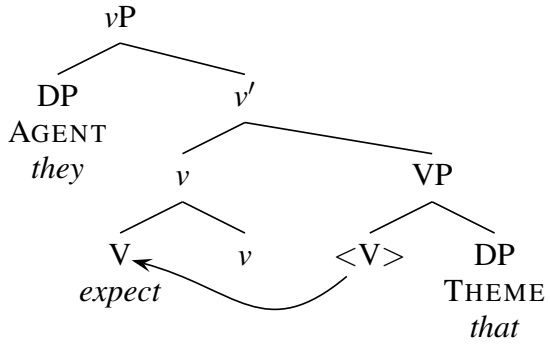
Here are the various *v*Ps. Note that the DPs *water*, *vodka*, and *a dirty look* are not being fully spelled out here.

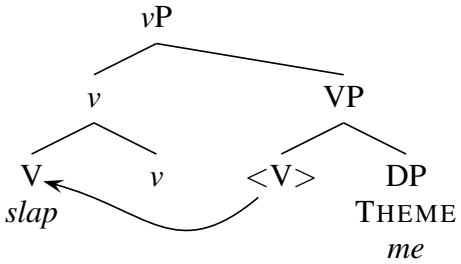








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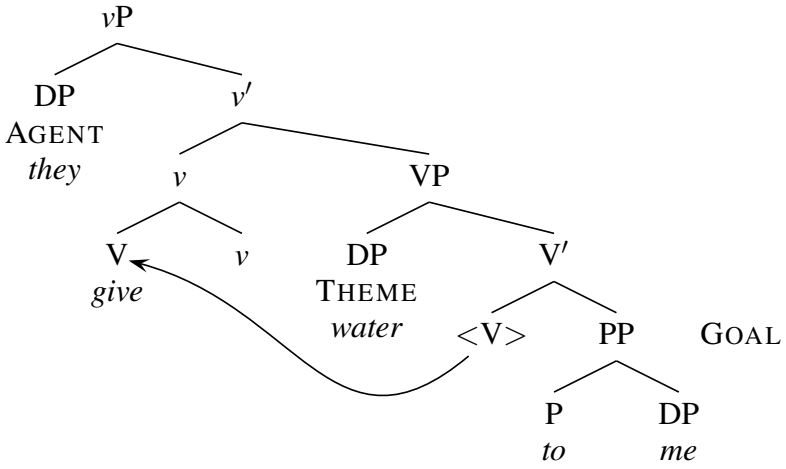
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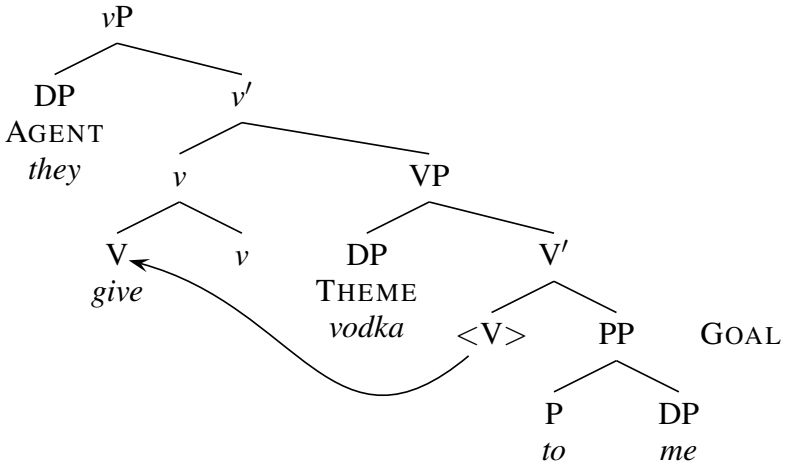
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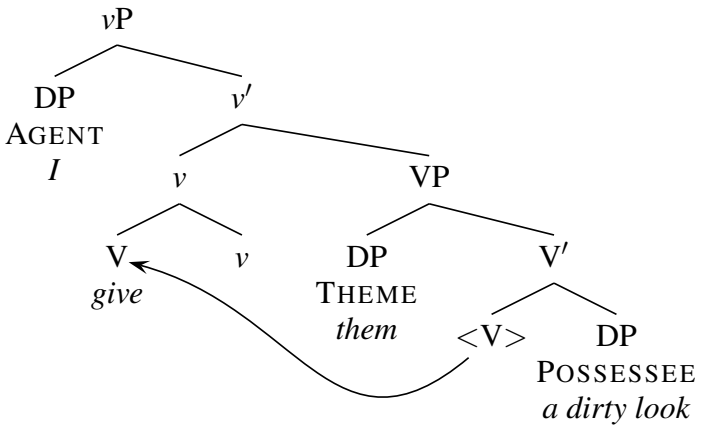
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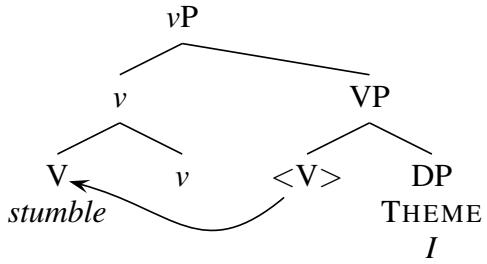
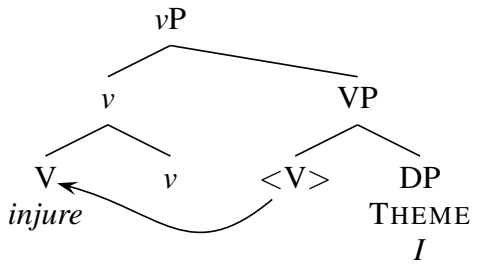
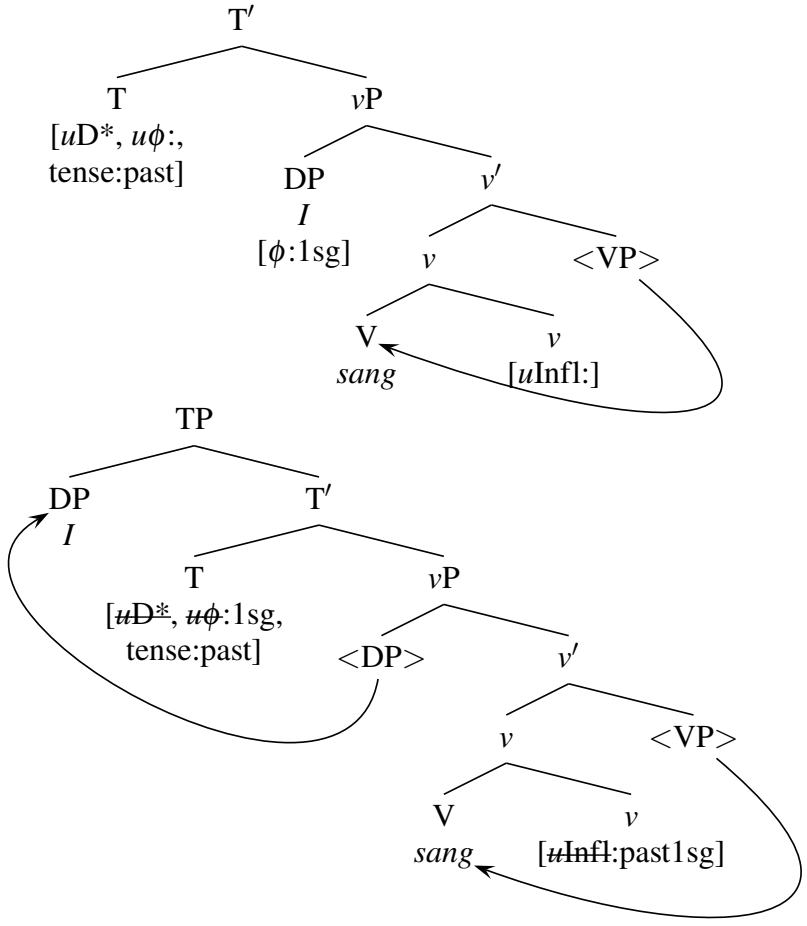
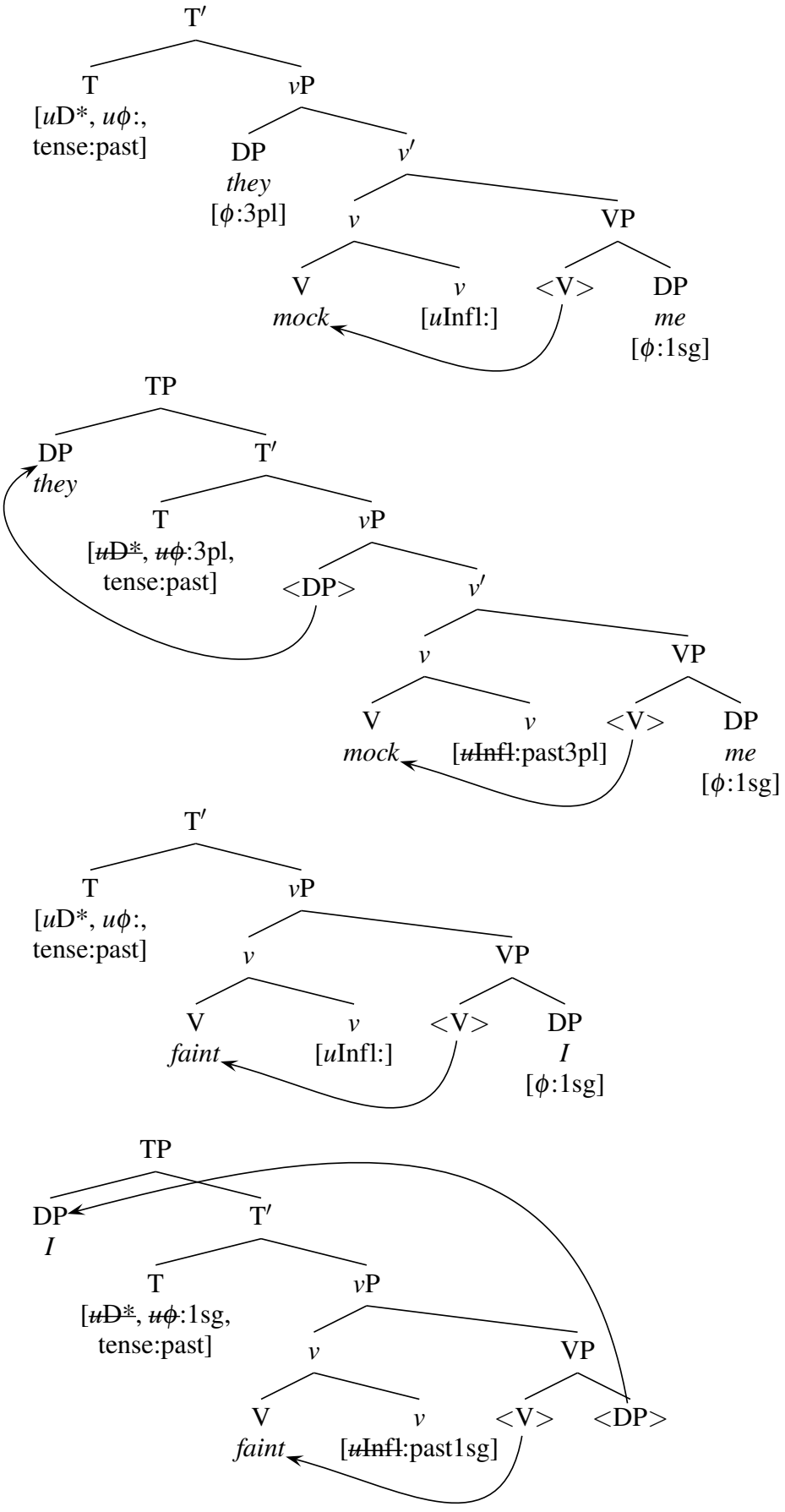




5.3 Key: From the *v*P to the TP

Here are the various TPs now, building on the *v*Ps from last time. Again, I will not draw the details of the DPs just yet. Also, I marked *water* and *vodka* as being 3sg, because they behave like singular DPs under agreement (*water runs*, *he runs*, *they run*).

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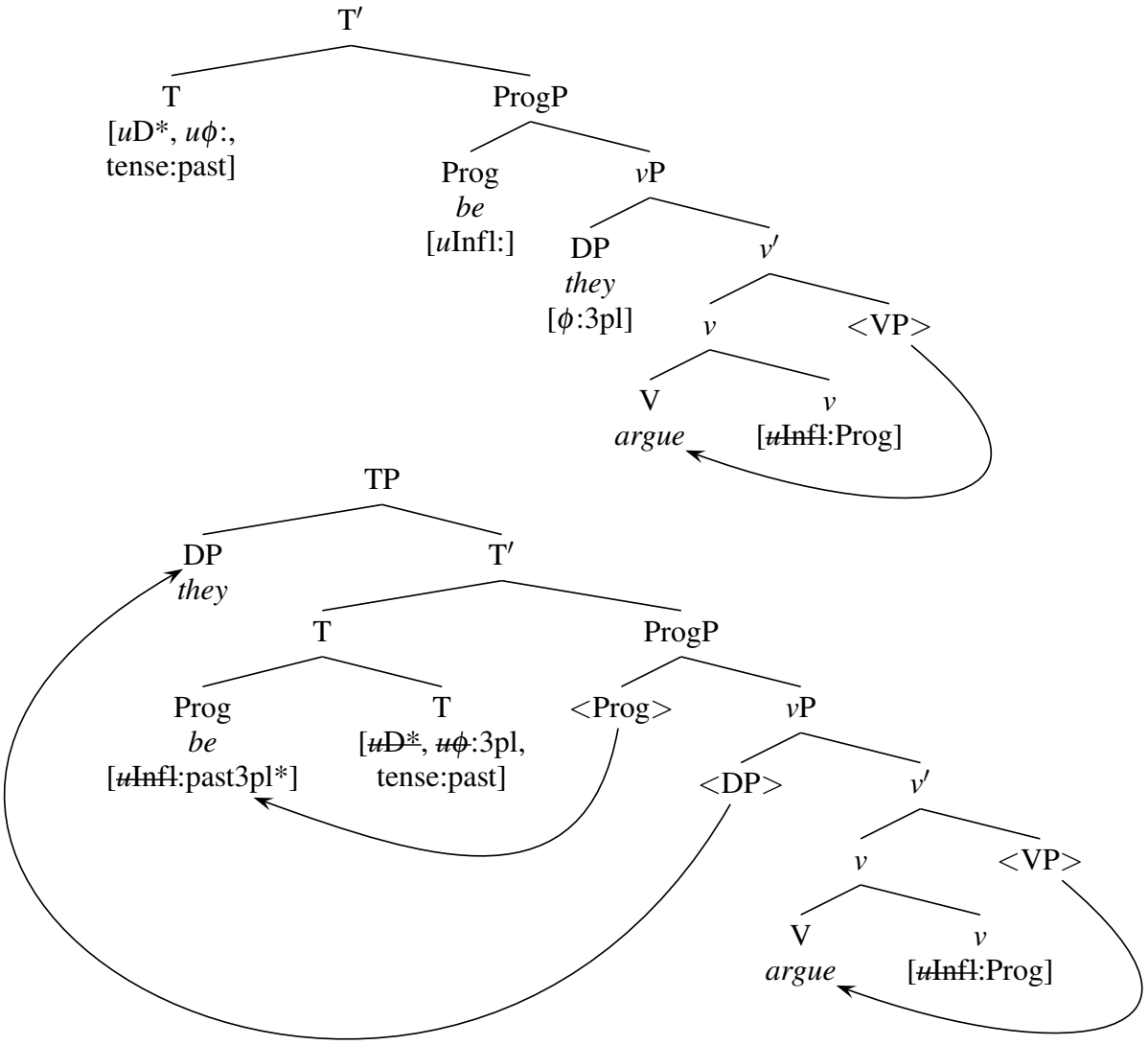
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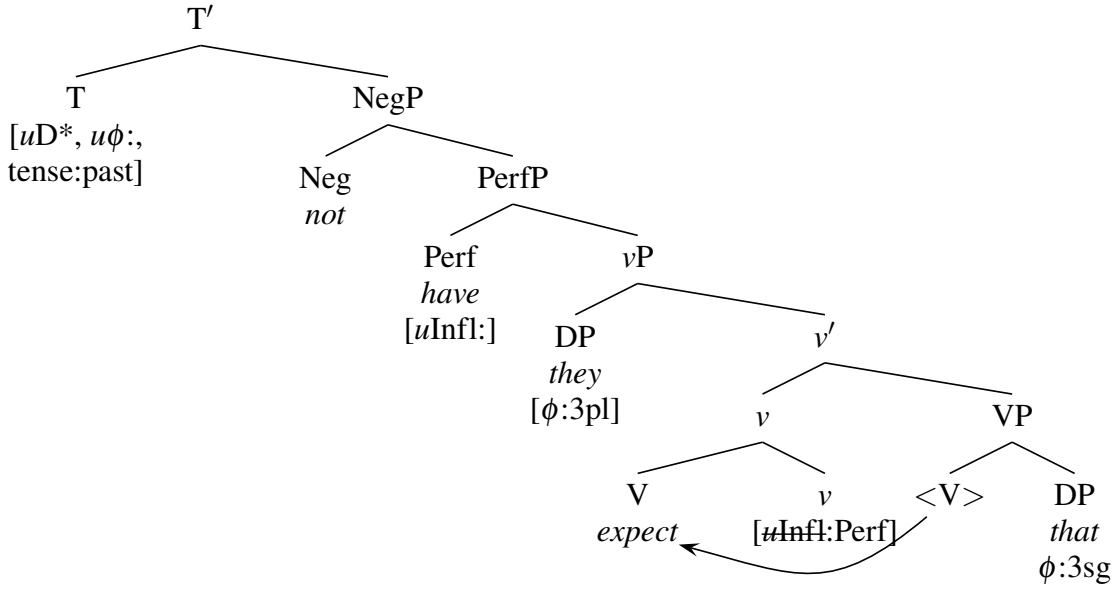
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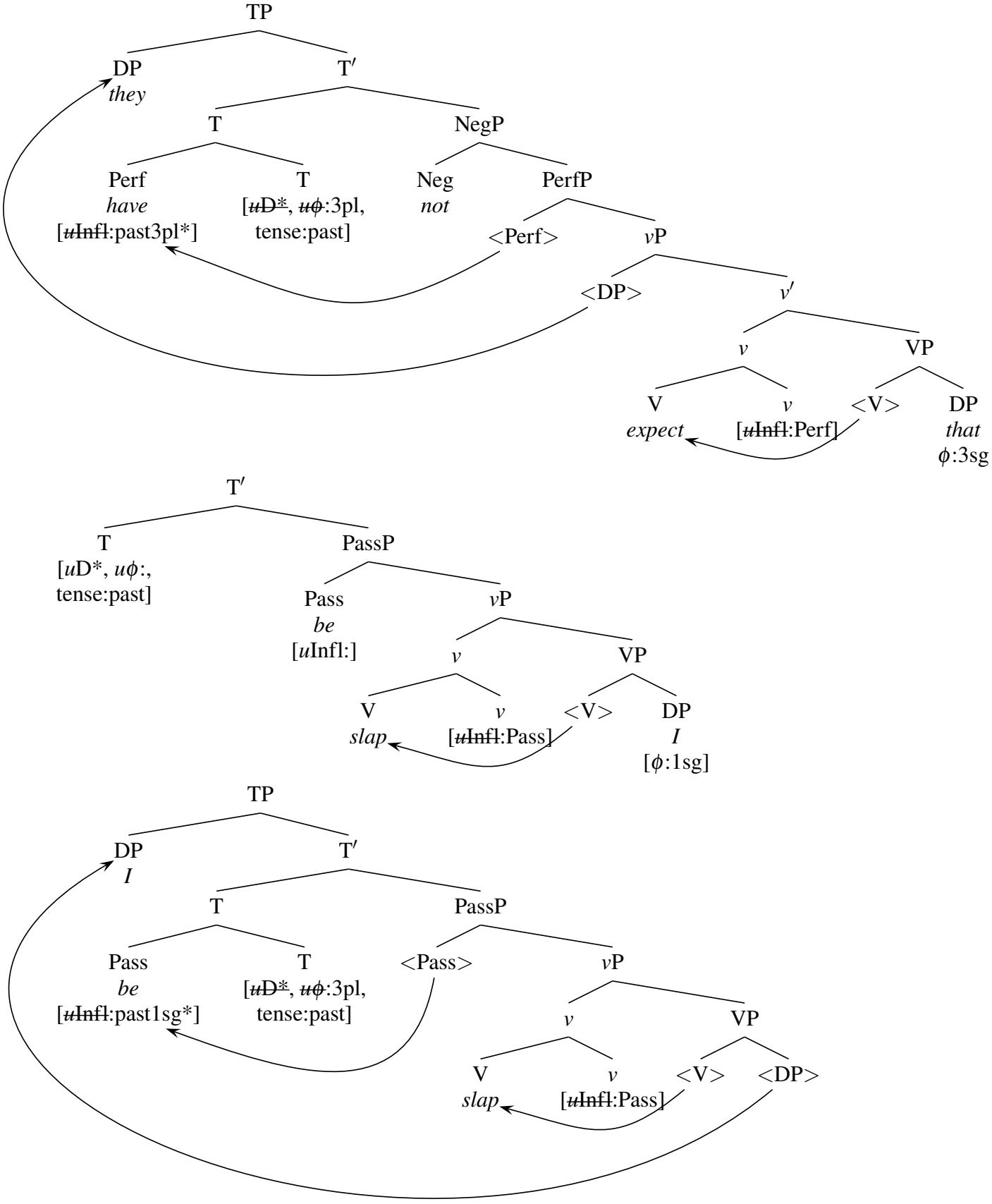
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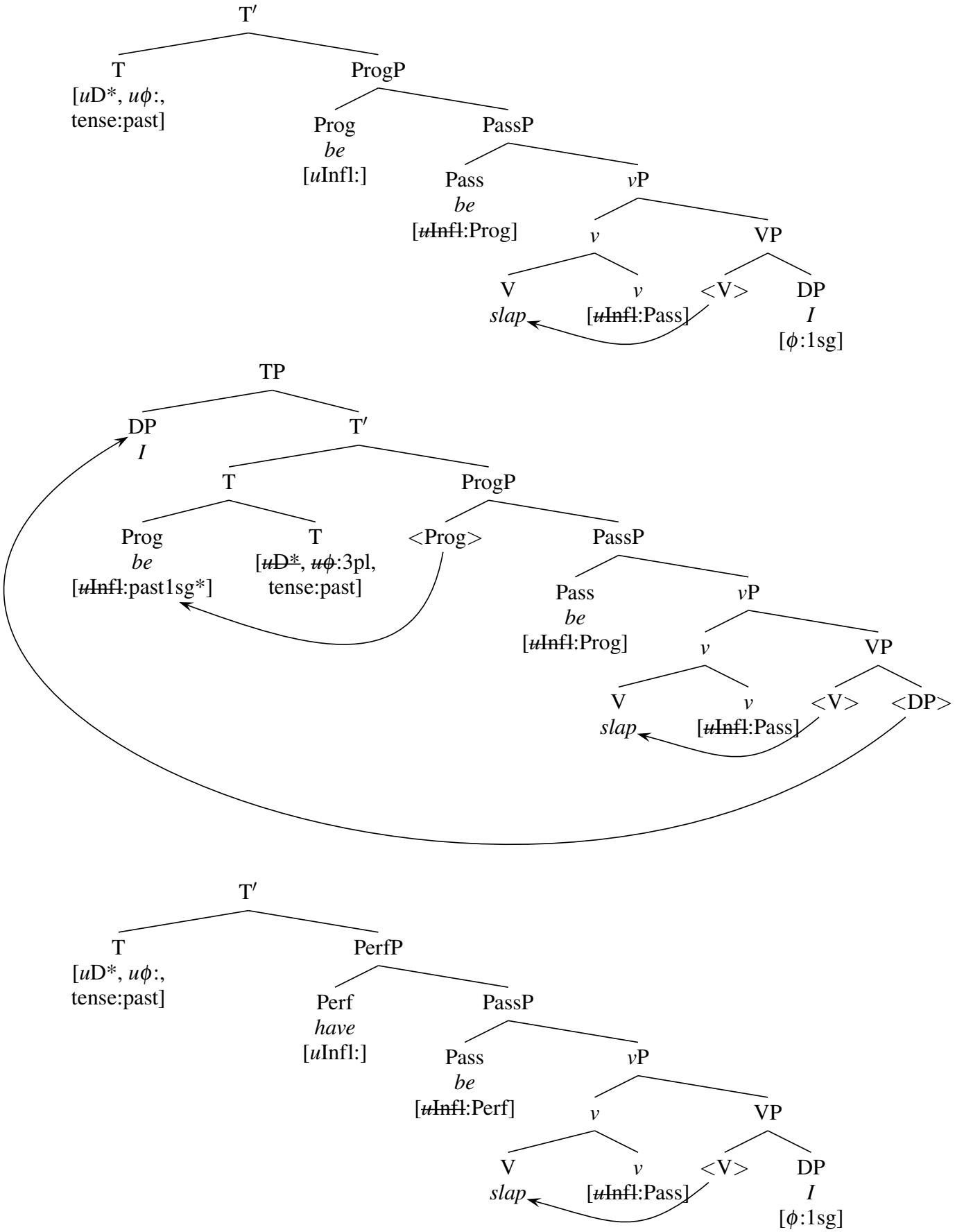
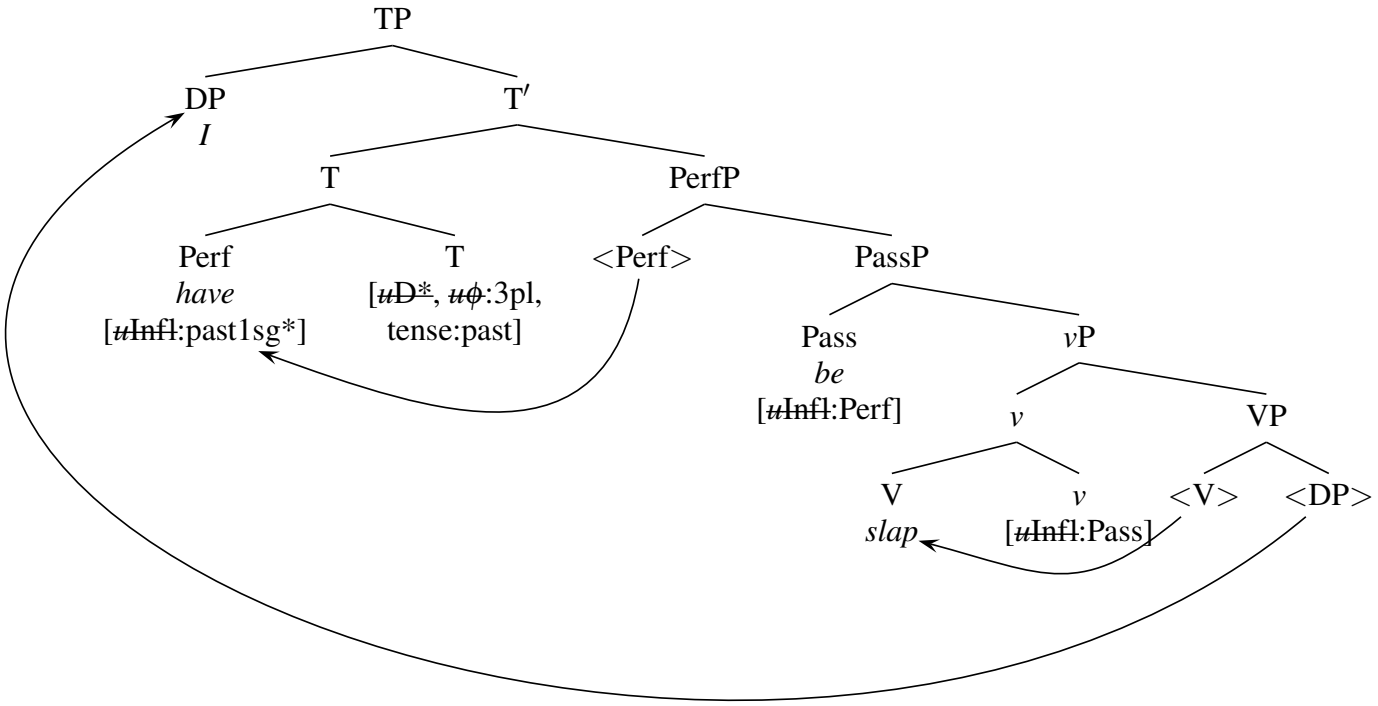
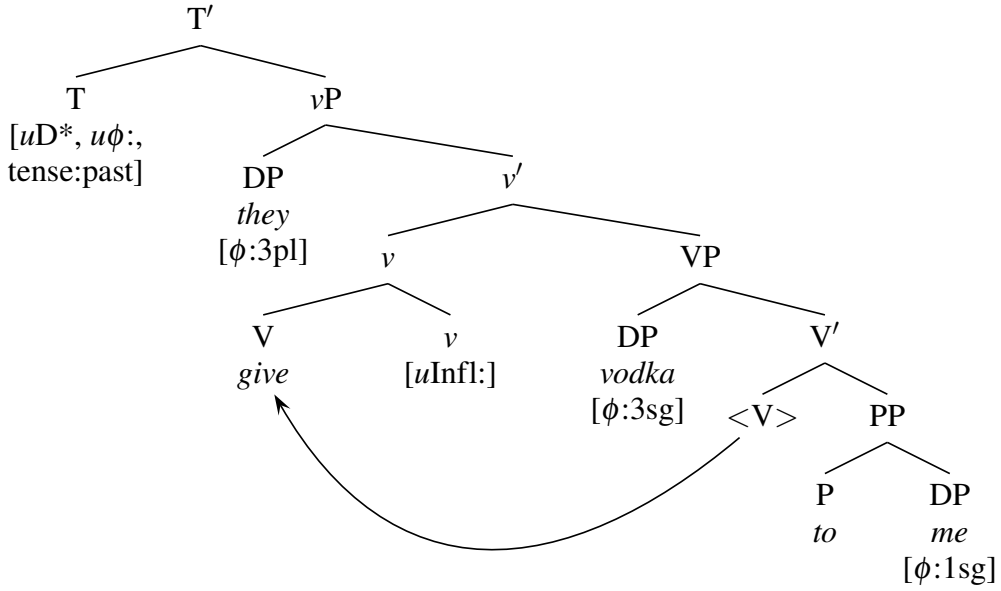
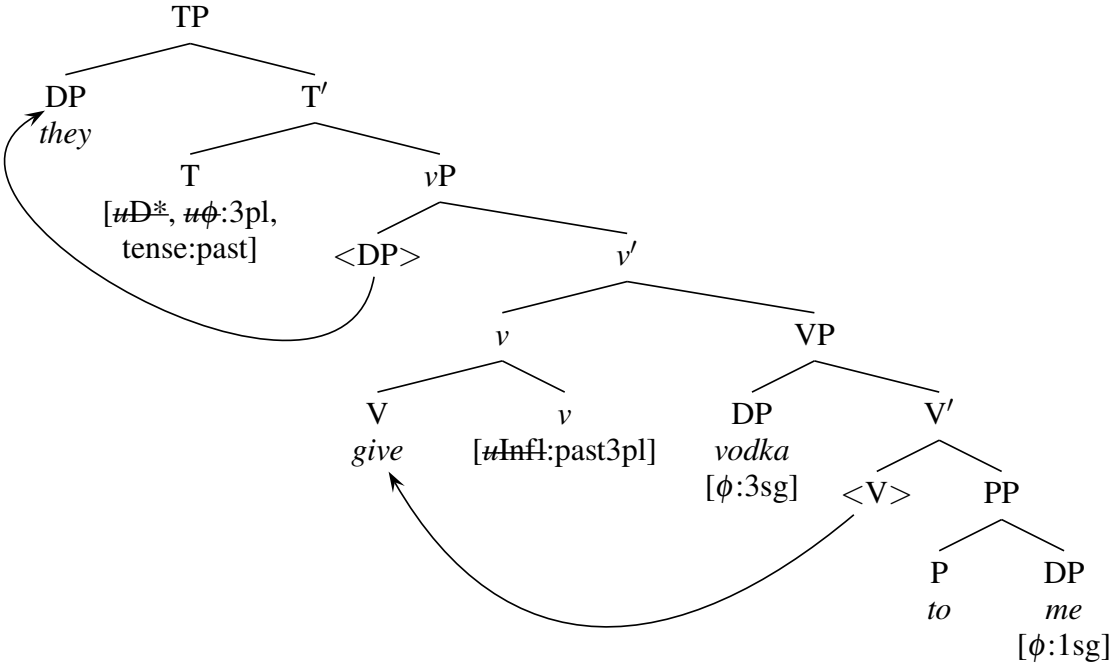
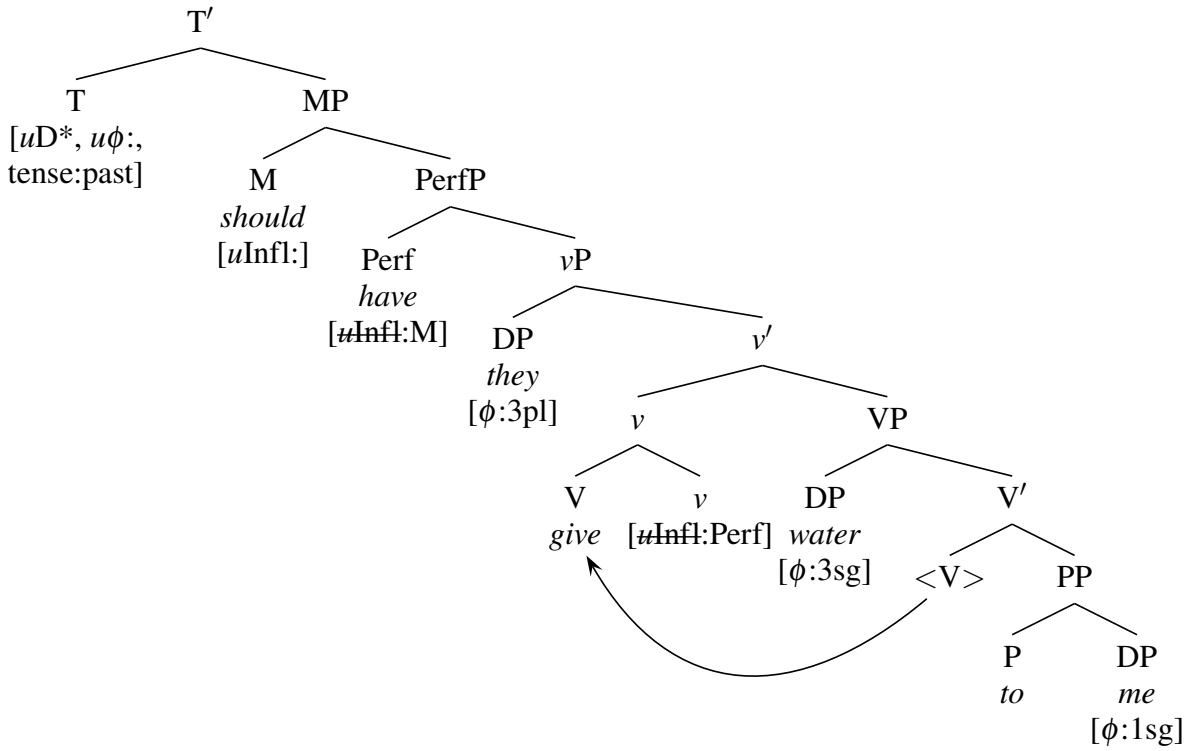
PassP
Pass
be
[uInfl:]
vP
v
VP
V
slap
v
[uInfl:Pass]
<V>
DP
I
[ϕ:1sg]
TP
DP
I
T′
T
PassP
Pass
be
[uInfl:past1sg*]
T
[uD*, uϕ:3pl,
tense:past]
<Pass>
vP
v
VP
V
slap
v
[uInfl:Pass]
<V>
<DP>

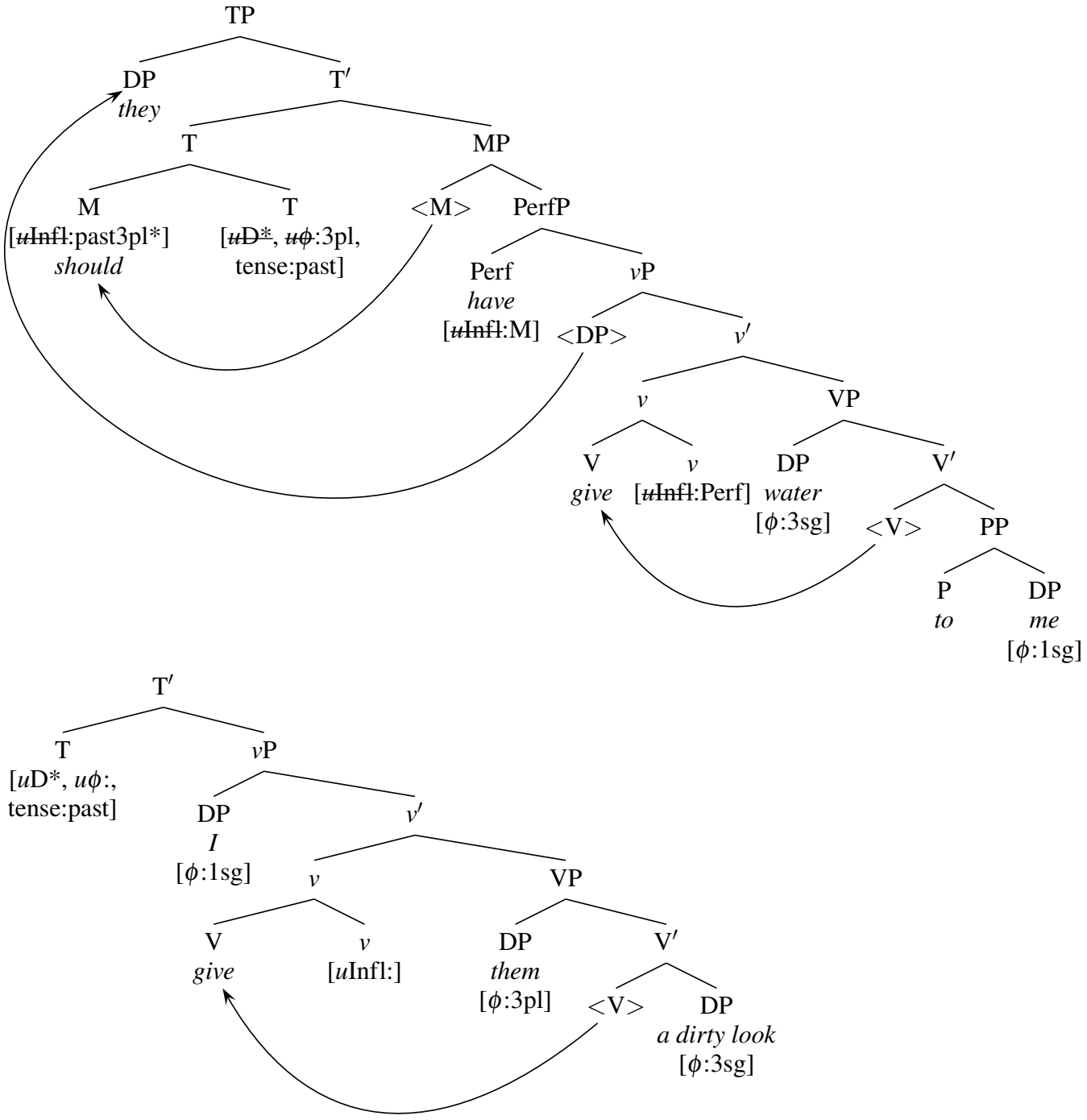

T′
T
[uD*, uϕ:,
tense:past]
ProgP
Prog
be
[uInfl:]
PassP
Pass
be
[~~uInfl~~:Prog]
vP
v
VP
V
slap
v
[~~uInfl~~:Pass]
<V>
DP
I
[ϕ:1sg]
TP
DP
I
T′
T
ProgP
Prog
be
[~~uInfl~~:past1sg*]
T
[~~uD*~~, ~~uϕ~~:3pl,
tense:past]
<Prog>
PassP
Pass
be
[~~uInfl~~:Prog]
vP
v
VP
V
slap
v
[~~uInfl~~:Pass]
<V>
<DP>
T′
T
[uD*, uϕ:,
tense:past]
PerfP
Perf
have
[uInfl:]
PassP
Pass
be
[~~uInfl~~:Perf]
vP
v
VP
V
slap
v
[~~uInfl~~:Pass]
<V>
DP
I
[ϕ:1sg]

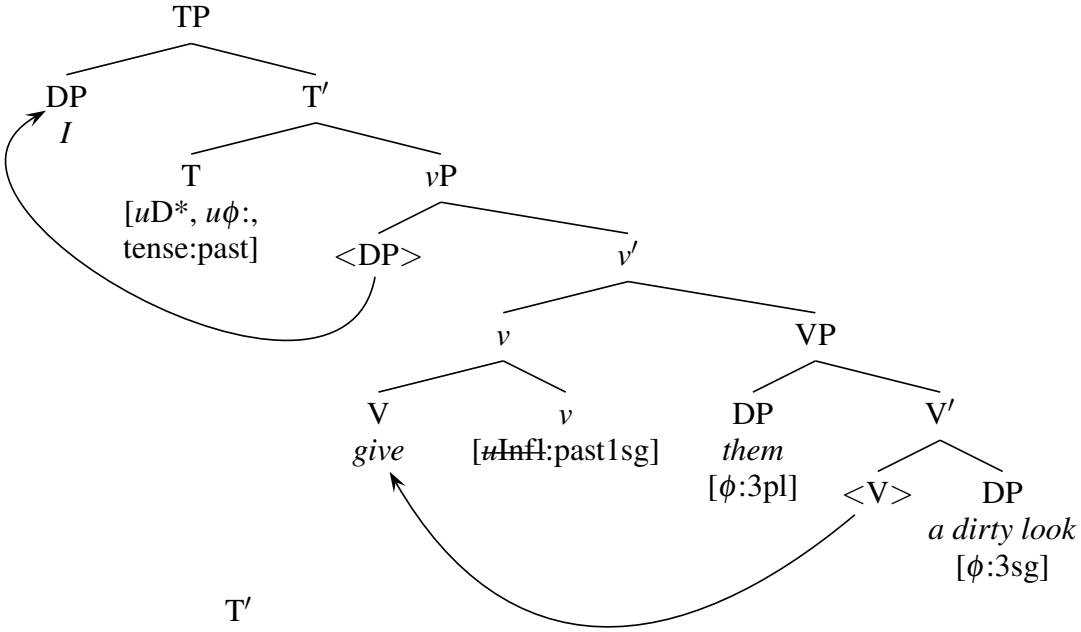

TP
DP
I
T′
T
PerfP
Perf
have
[uInfl:past1sg*]
T
[uD*, uϕ:3pl,
tense:past]
<Perf>
PassP
Pass
be
[uInfl:Perf]
vP
v
VP
V
slap
v
[uInfl:Pass]
<V>
<DP>

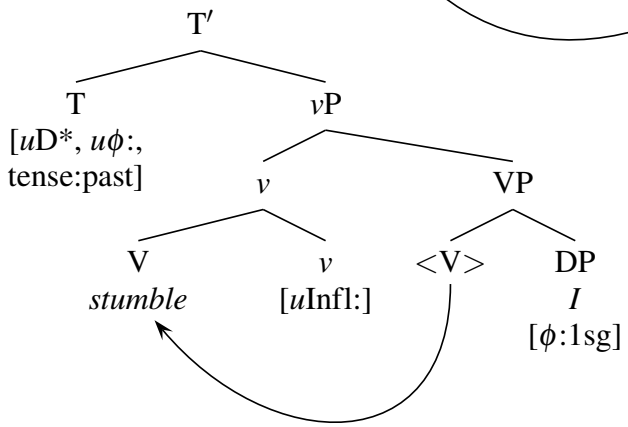

T′
T
[uD*, uϕ:,
tense:past]
vP
DP
they
[ϕ:3pl]
v′
v
VP
V
give
v
[uInfl:]
DP
vodka
[ϕ:3sg]
V′
<V>
PP
P
to
DP
me
[ϕ:1sg]

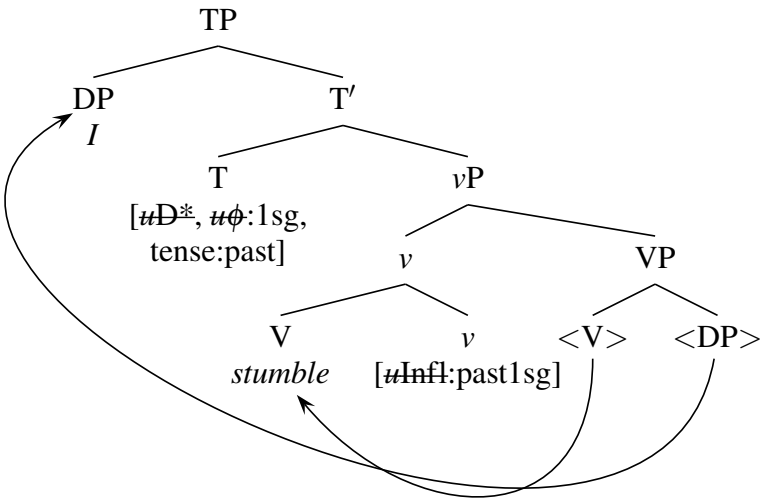

TP
DP
they
T′
T
[~~uD*~~, ~~uϕ~~:3pl,
tense:past]
vP
<DP>
v′
v
VP
V
give
v
[~~uInfl~~:past3pl]
DP
vodka
[ϕ:3sg]
V′
<V>
PP
P
to
DP
me
[ϕ:1sg]

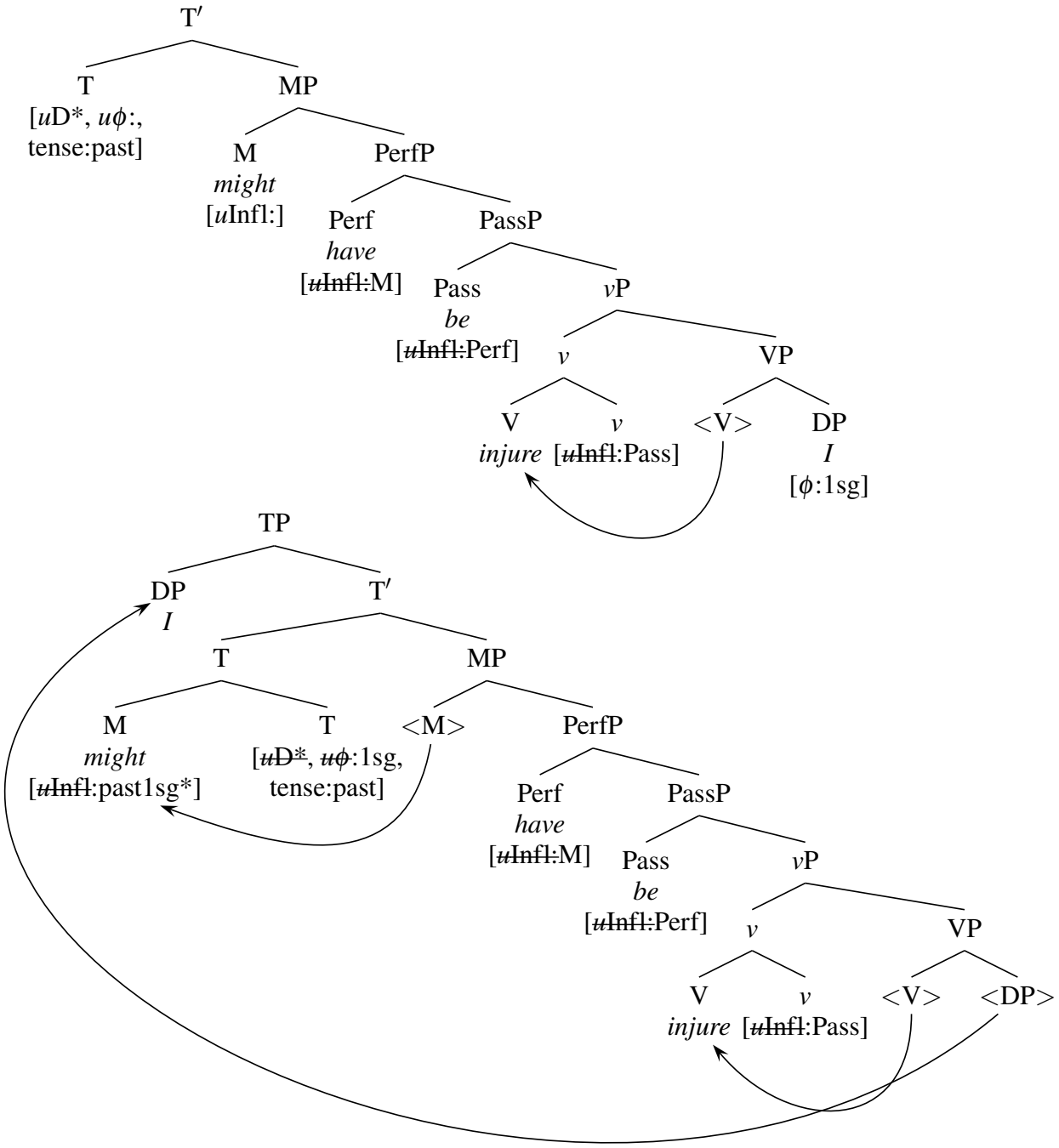

T′
T
[uD*, uϕ:,
tense:past]
MP
M
should
[uInfl:]
PerfP
Perf
have
[~~uInfl~~:M]
vP
DP
they
[ϕ:3pl]
v′
v
VP
V
give
v
[~~uInfl~~:Perf]
DP
water
[ϕ:3sg]
V′
<V>
PP
P
to
DP
me
[ϕ:1sg]


TP
DP
they
T′
T
MP
M
[uInfl:past3pl*]
should
T
[uD*, uϕ:3pl,
tense:past]
<M>
PerfP
Perf
have
[uInfl:M]
vP
<DP>
v′
v
VP
V
give
v
[uInfl:Perf]
DP
water
[ϕ:3sg]
V′
<V>
PP
P
to
DP
me
[ϕ:1sg]
T′
T
[uD*, uϕ:,
tense:past]
vP
DP
I
[ϕ:1sg]
v′
v
VP
V
give
v
[uInfl:]
DP
them
[ϕ:3pl]
V′
<V>
DP
a dirty look
[ϕ:3sg]


TP
DP
I
T′
T
[uD*, uϕ:,
tense:past]
vP
<DP>
v′
v
VP
V
give
v
[~~u~~Infl:past1sg]
DP
them
[ϕ:3pl]
V′
<V>
DP
a dirty look
[ϕ:3sg]


T′
T
[uD*, uϕ:,
tense:past]
vP
v
VP
V
stumble
v
[uInfl:]
<V>
DP
I
[ϕ:1sg]


TP
DP
I
T′
T
[~~u~~D*, ~~u~~ϕ:1sg,
tense:past]
vP
v
VP
V
stumble
v
[~~u~~Infl:past1sg]
<V>
<DP>


T′
T
[uD*, uϕ:,
tense:past]
MP
M
might
[uInfl:]
PerfP
Perf
have
[uInfl:M]
PassP
Pass
be
[uInfl:Perf]
vP
v
VP
V
injure
v
[uInfl:Pass]
<V>
DP
I
[ϕ:1sg]
TP
DP
I
T′
T
MP
M
might
[uInfl:past1sg*]
T
[uD*, uϕ:1sg,
tense:past]
<M>
PerfP
Perf
have
[uInfl:M]
PassP
Pass
be
[uInfl:Perf]
vP
v
VP
V
injure
v
[uInfl:Pass]
<V>
<DP>