1   Not English

[5 points] Observe the following example from Welsh. Welsh is a "VSO" language, meaning that the normal word order has the tensed verb first, followed by the subject and then the object. Example (1) below has the additional property that it has an auxiliary verb. For present purposes, we will make a simplifying assumption that it is directly parallel to the English progressive construction: the auxiliary verb 'be' is the tensed verb, and causes the main verb 'describe' to appear in a participle form. In particular, we will assume that the two word phrase *yn disgrifio* is relevantly identical to the English verb *describing* and appears in a single node in the tree structure, even though it happens to be written as two words orthographically.

(1)   Mae Siôn yn disgrifio   'r   ddamwain
       is   S   ing describing the accident
       'Siôn is describing the accident'

1.1   Headedness

Based on the evidence you can see in (1), do heads seem to precede or follow their complements in Welsh? Explain what leads you to your answer. There are 2–3 different things even in that one example that can lead you to an answer.

Heads seem to follow their complements. The main piece of evidence is that the object *'r ddamwain* follows the verb *yn disgrifio* in this case where there is an auxiliary verb. Also possibly relevant is the fact that the noun follows the determiner, and that the verb is first (which will indicate that C is head-initial, ultimately). There is nothing here that suggests a head-final structure anywhere.

1.2   Welsh

In (1), the auxiliary verb appears before the subject. If we assume that the subject (*Siôn*) is in the same place in the Welsh structure as it would be in the English structure, where must the auxiliary verb (*mae*) be? *A possibly unnecessary hint: the Welsh word order shown in (1) is possible in English in one circumstance, namely in yes-no questions. So, we have an existing model for how such a word order could arise.*

It would need to be in C, moved there from after the subject.

1.3 Tree

Bringing together your answers for parts 1.1 and 1.2, draw a tree structure for the example in (1). If there is movement needed, show the moved item in its final position, and use an arrow and brackets to show where it came from (like in the tree on the next page). No need to draw features, and—again—treat *yn disgrifio* as a verb under a single node of the tree.

```
                          CP
                          |
                          C′
                 ┌────────────────┐
                 C                TP
            ┌─────────┐      ┌──────────┐
            T         C      DP         T′
         ┌─────┐   Ødecl  ┌──────┐  ┌───────┐
         V     T          D′     <T>     VP
         |     |      ┌──────┐            |
        mae Ønonpast  D      NP           V′
                      |      |       ┌─────────┐
                   Øproper   N′      <V>       VP
                             |                  |
                             N                  V′
                             |            ┌──────────┐
                            Siôn          V          DP
                                     yn disgrifio    D′
                                                 ┌───────┐
                                                 D       NP
                                                 |       |
                                                 ′r      N′
                                                         |
                                                         N
                                                         |
                                                      ddamwain
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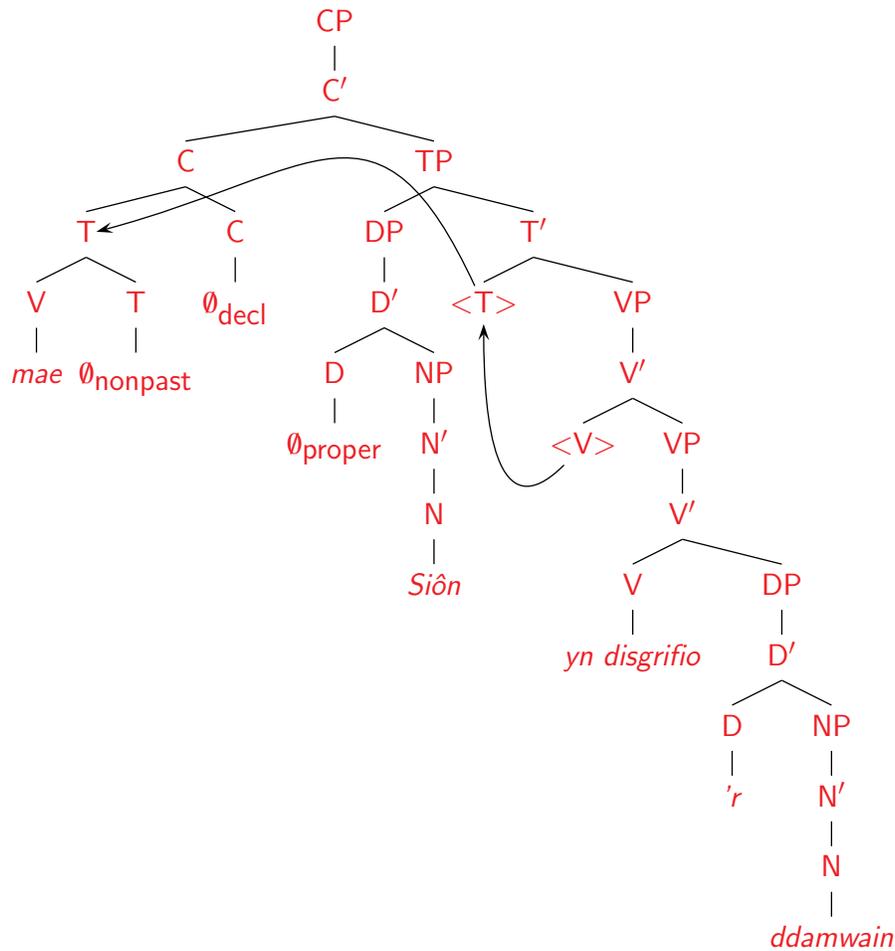
2 Trees

[20 points (4 per tree)] Draw trees for the following sentences, like the model below. Draw the S-structure, with arrows showing the movement, and with $<\ >$ around the position from which something moves. For a double movement (like V→T→C), you can draw it as in this tree, with the arrow for the first movement leading to the "trace" of the second movement. Complex heads (like C below) should be drawn out. Label silent heads with subscripts (e.g., $\emptyset_{Qwh}$, $\emptyset_Q$, $\emptyset_{proper}$, $\emptyset_{mass}$, $\emptyset_{pl}$, $\emptyset_{decl}$, $\emptyset_{past}$, $\emptyset_{inf}$, …).

CP
C'
DP
C'
D'
C
TP
D
T
C
DP
T'
what
V
T
∅Qwh
D'
<T>
VP
should
∅past
D
V'
you
<V>
VP
V'
V
<DP>
draw

3

```
                                    CP
                                    |
                                    C′
                    ┌───────────────┴───────────────┐
                    C                                TP
                    |                   ┌────────────┴────────────┐
                   Ø_decl               DP                        T′
              ┌─────────────┬──────┐          ┌──────────┴──────────┐
             DP           Conj    DP           T                    VP
         ┌────┴────┐       |       |      ┌────┴────┐               |
        DP        D′      and      D′     V         T               V′
         |     ┌───┴───┐           |      |         |          ┌────┴────┐
        D′    D       NP           D    have    Ø_nonpast   <V>          VP
         |    |       |            |                             ┌───────┴───────┐
         D    's      N′           I                           AdvP             VP
         |            |                                          |               |
       your           N                                        Adv′             V′
                      |                                          |          ┌────┴────┐
                   brother                                      Adv         V        DP
                                                                 |          |         |
                                                           successfully   solved     D′
                                                                                ┌────┴────┐
                                                                                D        NP
                                                                                |         |
                                                                               the        N′
                                                                                          |
                                                                                          N
                                                                                          |
                                                                                       puzzle
```
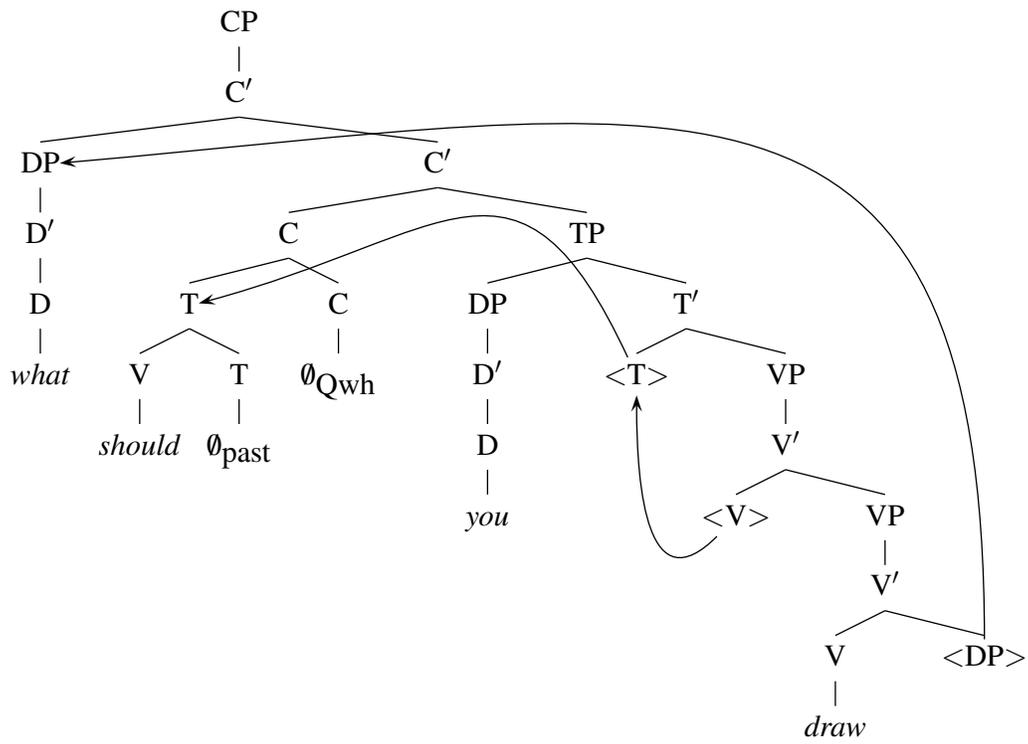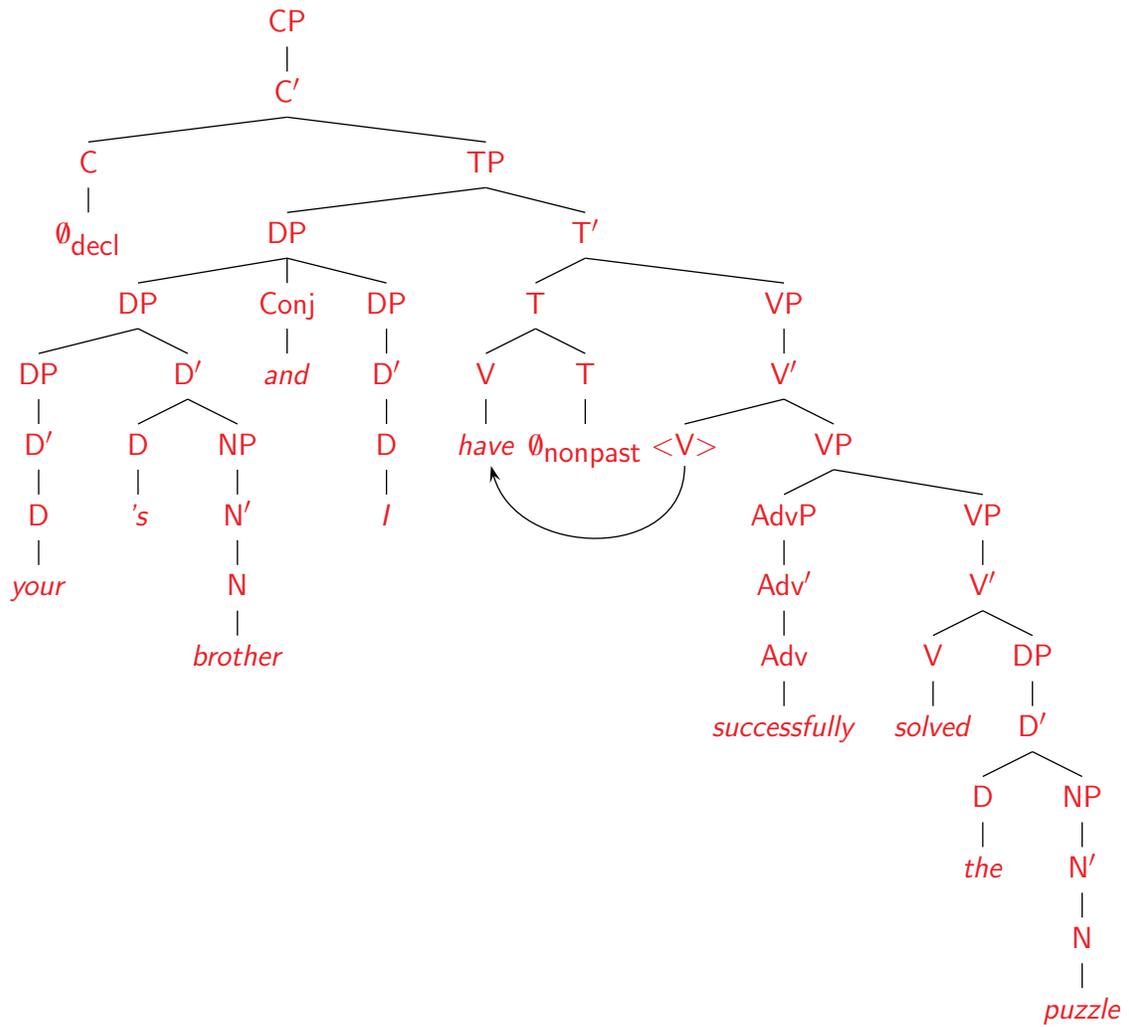
(2)   Your brother and I have successfully solved the puzzle.
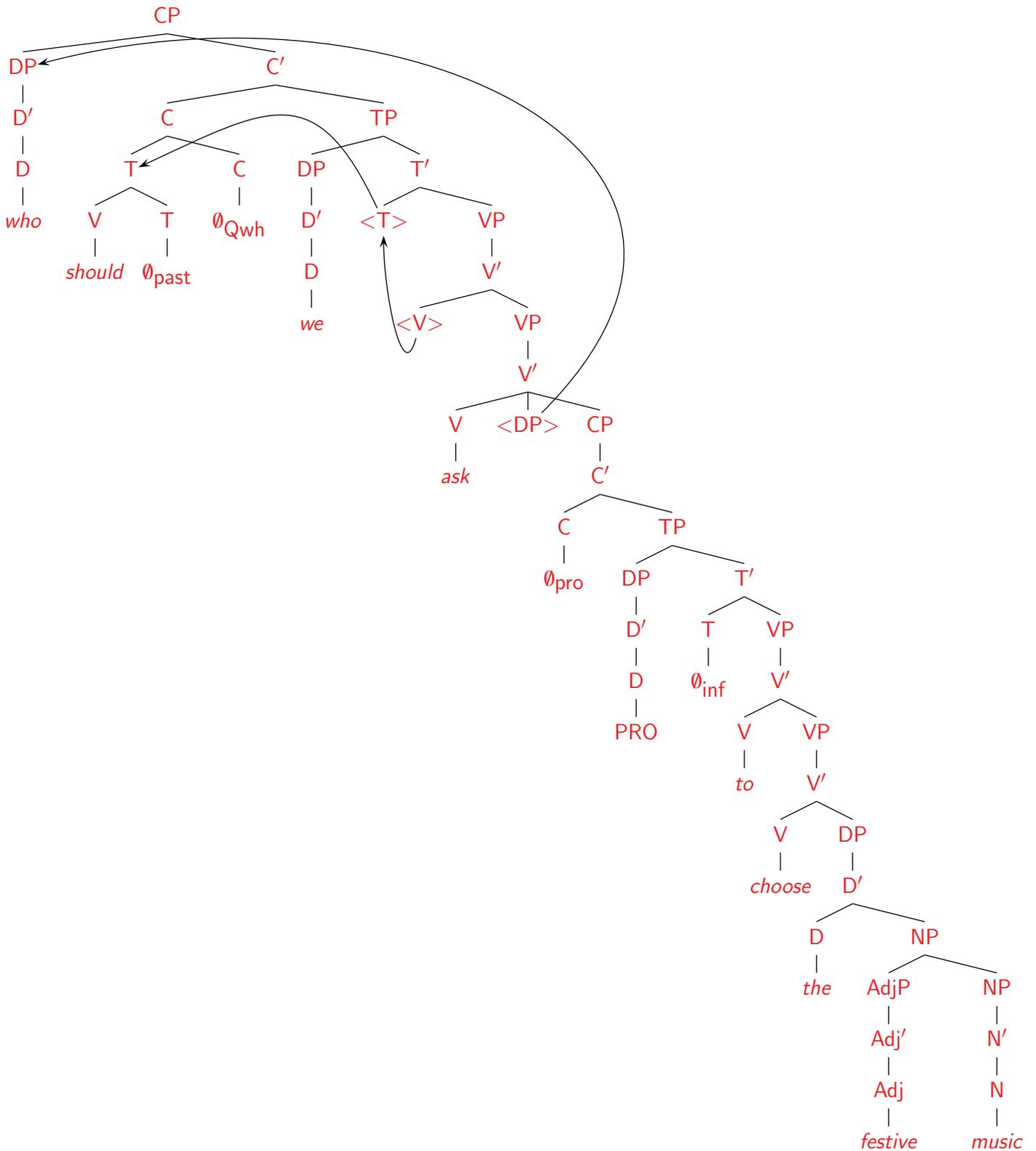
(3) Who should we ask to choose the festive music?

This one and the next one feature the verb *ask*, and this is being used as a ditransitive verb. Someone is asking, someone is being asked, and there is something they are being

asked. In this *ask* is used in the sense of "delegate" and the embedded CP is a declarative one. However, for it to be ditransitive it must be that both the DP *them* (those being asked) and the embedded CP must be sisters to V *ask*. Meaning that there is a ternary structure in this one. Also note that this is different from a sentence like *Who do you want to choose the music?* since in that case, *want* is simply transitive. Because *ask* is ditransitive, there needs to be a PRO serving as the agent of the choosing event.

There were also a surprising number of people in this one and the next one that moved the *wh*-word to the **head** C. *Wh*-words move into the specifier position of a CP that has $\emptyset_{Qwh}$ as its head. The specifier is the position that has CP as its mother and C′ as its sister. (So, it's also not right to move a *wh*-word to become a C′ adjunct either, the *wh*-word is right up at the top of the CP.)
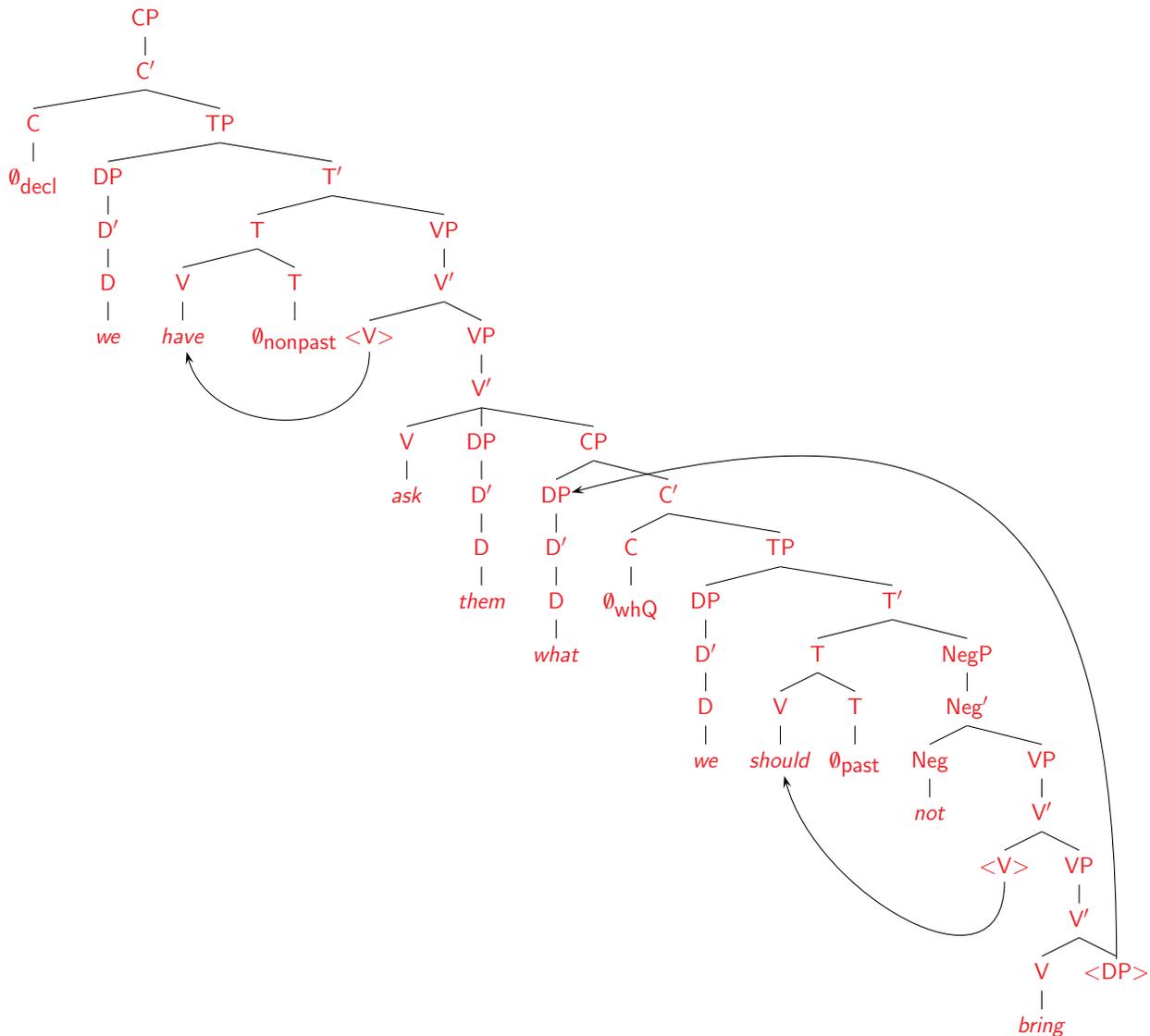
(4)   We have asked them what we should not bring.

In this one, like the one before, *ask* is ditransitive. In this case, the embedded CP is a question, so the head C is $\emptyset_{Qwh}$. There are two auxiliaries here in two tensed clauses, and so both need to move to their respective T nodes right above them. In the lower clause, NegP should be positioned just below TP, above any VPs. The highest auxiliary (*shall/should*) moves over *not* to get to T.

Here more than in the previous one, a number of people did not indicate the original position of *what*. *What* here is the object of *bring*, and so needs to start as the sister to the V *bring* and then move to the specifier of the embedded CP.

CP
C′
C
∅_decl
TP
PP
P′
P
after
DP
D′
D
the
NP
N′
N
dinner
TP
DP
D′
D
they
T′
T
∅_past
VP
V′
V
begin
CP
C′
C
∅_pro
TP
DP
D′
D
PRO
T′
T
∅_inf
VP
V′
V
to
VP
V′
V
air
DP
DP
D′
D
their
D′
D
's
NP
AdjP
Adj′
Adj
myriad
NP
N′
N
grievances
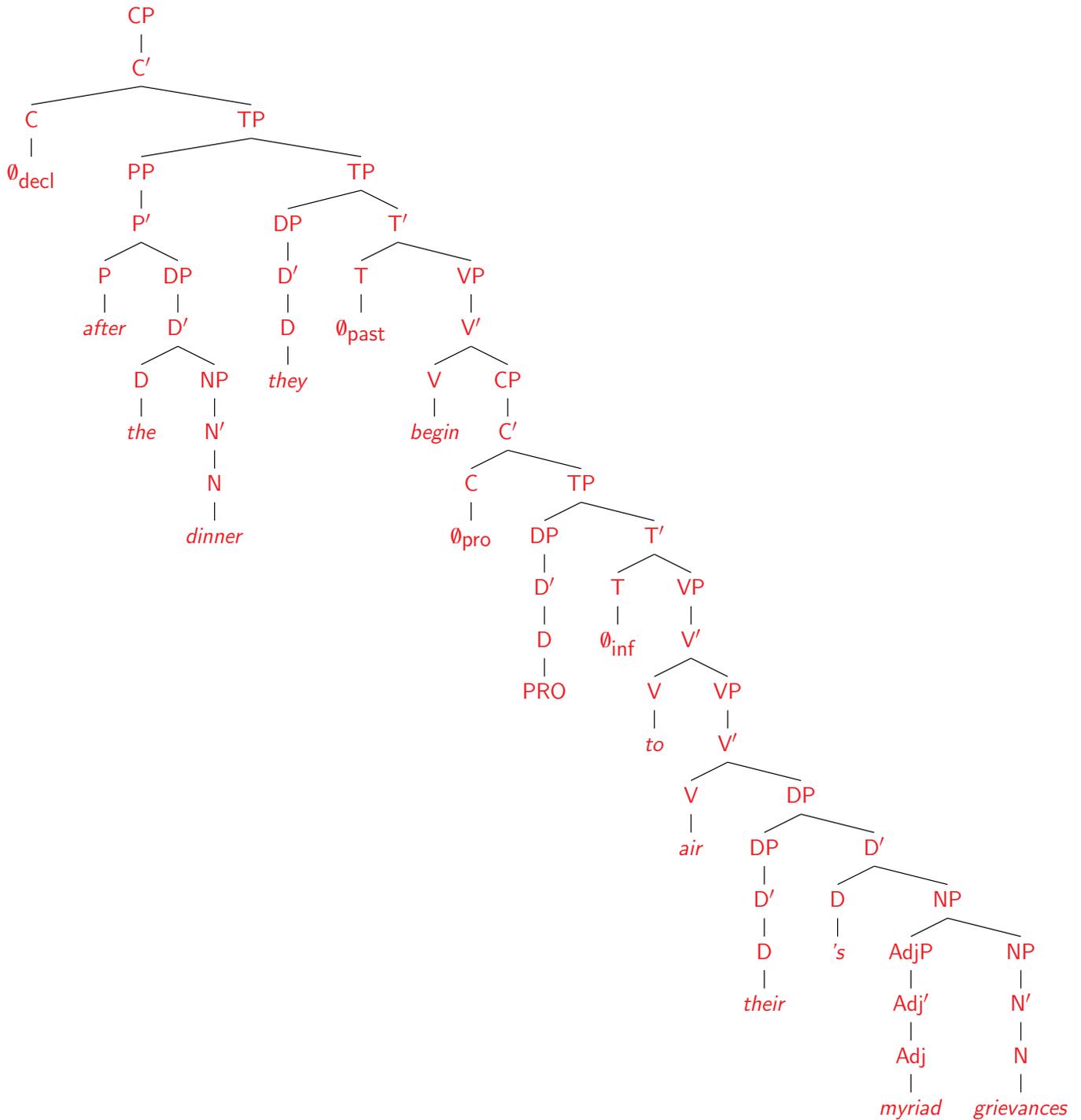
(5)   After the dinner, they began to air their myriad grievances.

In this one *after the dinner* is a PP, but there are a couple of places it could be attached. I attached it as an adjunct to TP because it is framing the time. We haven't ruled out the possibility of adjoining to CP, so that is possible, although on the basis of a sentence like *I heard that after the dinner they begain to air their myriad grievances*, the C *that* appears before *after the dinner*, meaning that it would need to be below

the C node. Some people also drew *after the dinner* moving to the front from an original position at the end, which is not impossible. We don't have evidence for that necessarily, and at least some adverbs seem to be able to adjoin on either side of things, but I didn't count off for supposing there was a movement (but I wasn't intending it to be that complicated).

I opted to use *begin* as an embedding verb, but this introduces a kind of complexity/ambiguity. I had originally considered *begin* to have it's own agent, one could decide to begin as well as deciding to air grievances. Put another way, it's possible to say just *They began.* In that case, it would be a control verb, and the embedded verb would need a PRO. But since you can also use *begin* in a sentence like *The ice began to melt*, this would be a raising verb, like in *The ice seemed to melt.* And then there would be no CP and no PRO. So I took either one, but the tree I gave above is the former version, with PRO.

Ultimately, this one was more complicated (or at least required more somewhat arbitrary decisions) than I had intended.

I suppose there is a slight chance that not everyone recognized the airing of grievances. A couple of people swapped out "grievances" for a different word when they drew the tree. This is a reference to a (at the time and for a while after) very famous episode of *Seinfeld* called "The Strike" from December 1997. In that episode, an alternative holiday called "Festivus," invented by the father of one of the main characters, was described. Festivus had several "traditional practices," among them being the "Airing of Grievances," the "Feats of Strength," and the display of an unadorned aluminum pole (the "Festivus pole").

CP
C′
C TP
T C DP T′
V T ∅_Q D′ <T> VP
should ∅_past D V′
we <V> VP
V′
V VP
have V′
V DP
forget DP Conj DP
D′ *and* D′
D NP D NP
∅_pl AdjP NP *some* NP PP
Adj′ N′ N′ P′
Adj N N P DP
old *acquaintances* *stuff* *about* D′
D NP
∅_pl AdjP NP
Adj′ N′
Adj N
long *signs*
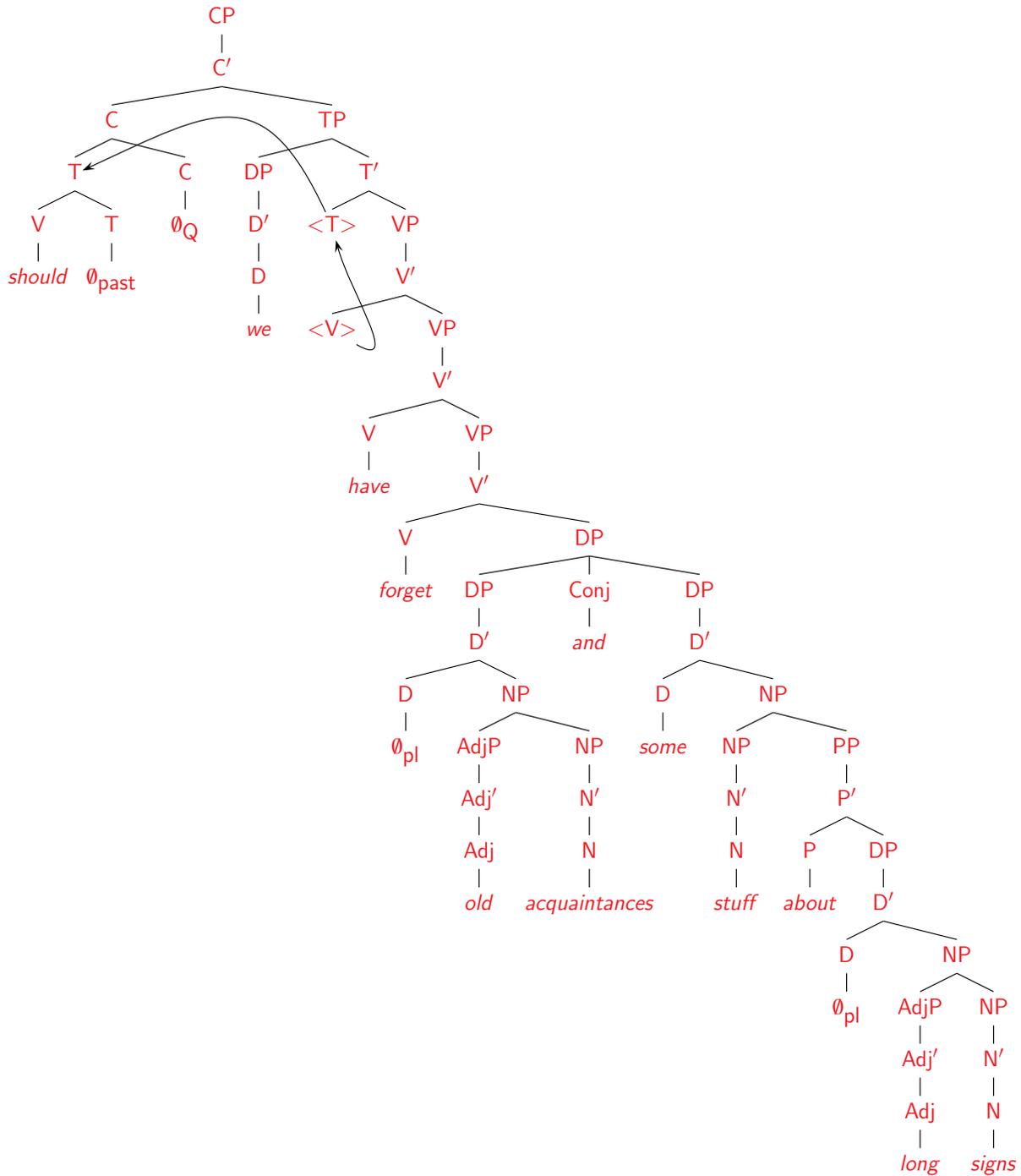
(6)   Should we have forgotten old acquaintances and some stuff about long signs?

With respect to the PP *about long signs*, I drew that as being adjoined to the NP *stuff*, but I think the case could be made to consider the PP to be a complement of the N *stuff* too. It's not clear which is right, either structure arguably occurs out in the world. It might correlate with a subtle nuance of meaning even.

A few people characterized *some* as an adjective, but it's a D. I let that go, though.

3   Inventing examples

[5 points] For each description below, provide a sentence matching the description.

(7)   A *wh*-question that contains a PRO (in an embedded clause)

(8)   A declarative sentence with a modal and an embedded yes-no question

(9)   A negative declarative sentence with an intransitive verb

(10)   A *wh*-question with an adverbial *wh*-word

(11)   A sentence with an embedded infinitive but no PRO