1 A sentence that shows Principal A cannot apply before Head Movement?

Let's take a second to think about what we have learned in the Head Movement domain. For the purposes of this assignment, I'm assuming we are not taking into account the extensive changes to D-Structure introduced by the Argument Movement domain.
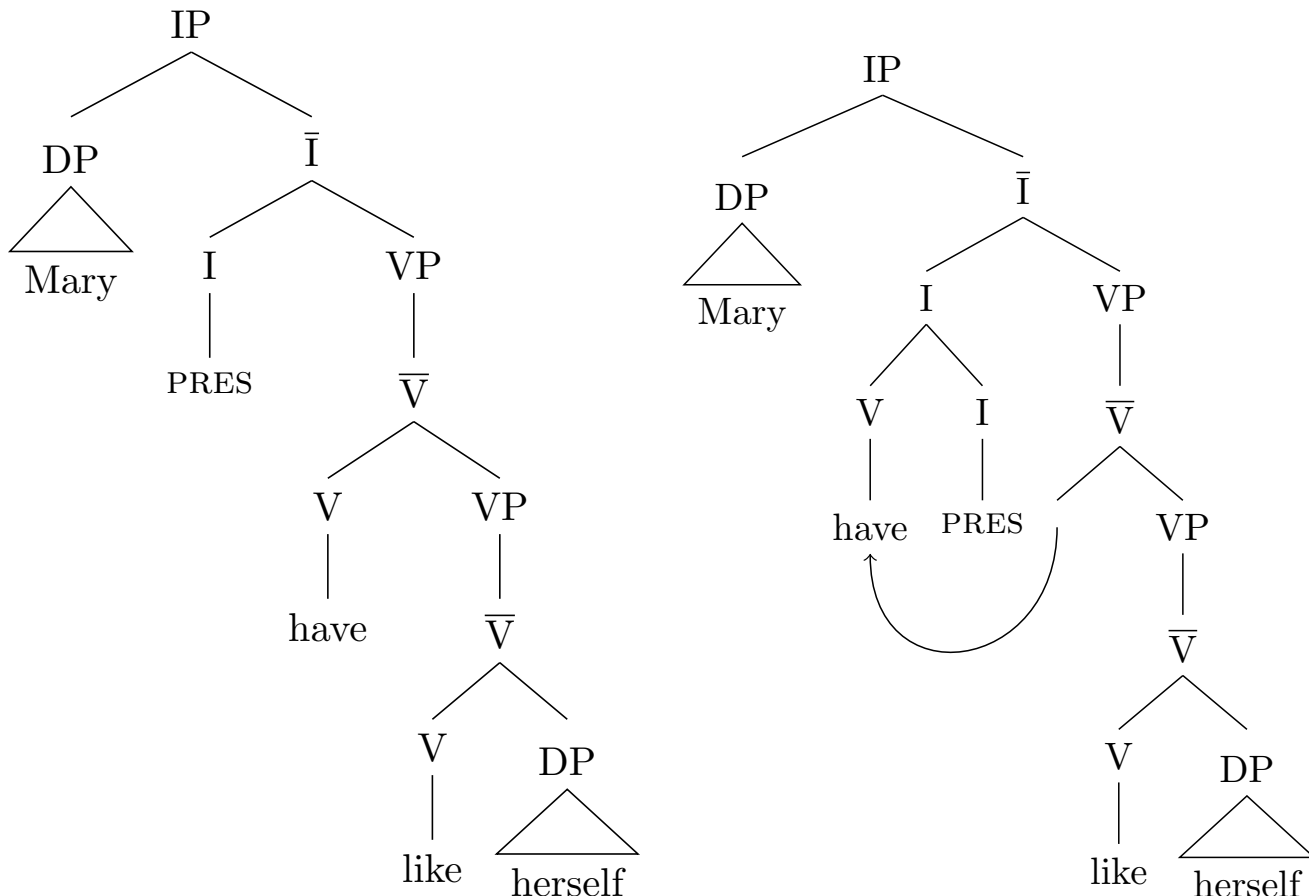
Let's start with considering the cases in which our Head Movement rules apply. There are three major Head Movement rules that we have looked at:

1. V-Movement

2. I-Movement

3. Topicalization

I believe that considering the Head Movement domain only, Principal A (and indeed the whole of Binding Theory) is able to apply correctly at D-Structure (before Head Movement). To prove this, let's examine each of the above Head Movement rules in relation to Binding Theory.
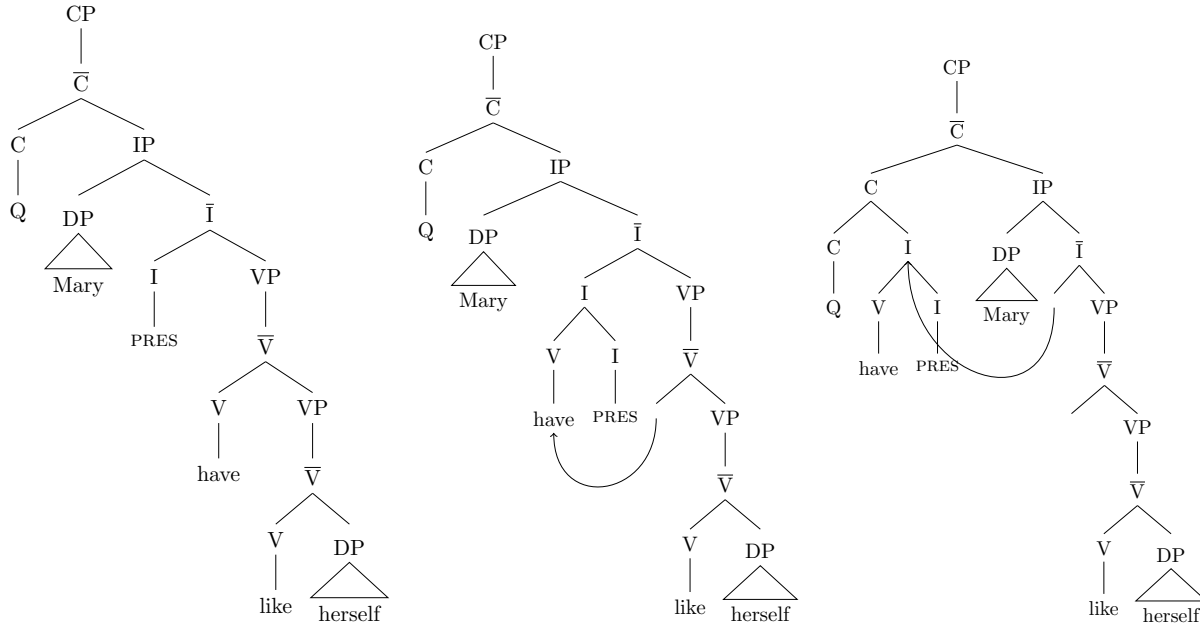
1.1 V-Movement

In sentences whose parses use V-Movement, there is little difference between the S-Structure and the D-Structure. We know that our Binding Theory should apply at S-Structure (since that's what it's designed to do). It stands to reason that if the D-Structure does not differ in any way that affects the interaction of DPs, then Binding Theory should apply to it in the same way. Let's look at an example:

We can see that the D-Structure on the left and the S-Structure on the right do not differ in any way that affects the binding of the DPs. In both parses, 'Mary' c-commands 'herself'. In both parses, the binding domain of 'herself' includes 'Mary'. In both parses, Principal A correctly predicts that the co-indexing 'Mary' and 'herself' is a grammatical binding (and is the *only* grammatical binding). We can see that this same logic would apply even to the German version of V-Movement, which moves main verbs – because the position of the verb does not affect the binding of the DPs.

1.2 I-Movement

I-Movement makes things a little more interesting. However, it will ultimately prove to be just like V-Movement, in that it does not have anything to do with how the DPs bind one another. Let's look at an example:

In all three of these parses, Principal A correctly predicts that co-indexing 'Mary' and 'herself' is a grammatical (and the *only* grammatical) index assignment. Again, this is because the I-Movement rule does not affect the binding of the DPs. It does not change the c-commanding structure nor the binding domain.
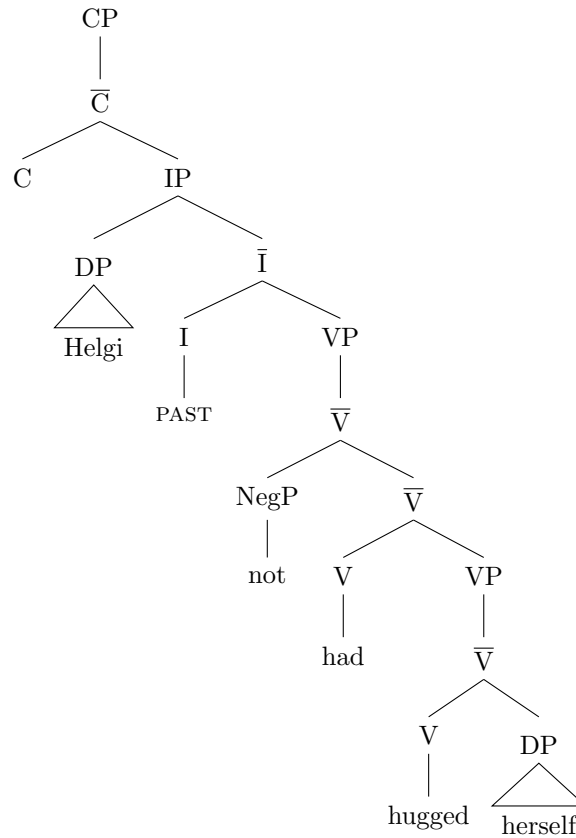
1.3 Topicalization

Topicalization will prove problematic later. However, we know that Topicalization requires no special D-Structures whatsoever. There is absolutely no reason that it should have anything whatsoever to do with binding at D-Structure. In fact, I cannot think of *anything* from the Head Movement domain that will affect binding at D-Structure. For myself at least, this very much works with my own intuitions, since binding seems to be a semantic property of DPs, and D-Structure is supposed to be representative of semantic content.

2 A sentence that shows Principal A cannot apply after Head Movement?

I think that we have demonstrated sufficiently that both V-Movement and I-Movement do not affect DP binding. However, Topicalization does affect binding – at S-Structure. Since Topicalization doesn't appear in English, we'll use Icelandic. Let us consider the Icelandic (rendered here in English glosses) sentence: 'Helgi had not read this book before yesterday'. That sentence is drawn directly from the Head Movement domain level 4 problem. Let's alter it a bit so we can use it for our purposes here: 'Helgi had not hugged herself'.

Let's look at the D-Structure for this sentence:

```
                              CP
                              |
                              C̄
                             / \
                            C   IP
                               /  \
                             DP    Ī
                             /\   / \
                          Helgi  I   VP
                                 |    |
                               PAST   V̄
                                     / \
                                  NegP  V̄
                                   |   / \
                                  not V   VP
                                      |    |
                                     had   V̄
                                          / \
                                         V   DP
                                         |   /\
                                      hugged herself
```

Through V-Movement, I-Movement, and Topicalization, the words in this sentence get shuffled around from the D-Structure order to give us the order we actually hear. In this case, we Topicalize 'Helgi' – meaning that Helgi is still the specifier of a larger phrase containing 'herself', and thus Principal A can correctly predict that co-indexing 'Helgi' and 'herself' is the only grammatical index assignment.

Unfortunately for Principal A, we can Topicalize *any* phrase from the sentence, not just 'Helgi'. Specifically, this becomes a problem if we Topicalize 'herself', giving us the sentence 'Herself had Helgi not hugged.' (This being the analog of the sentence 'This book had Helgi not read before yesterday' from the assignment). In this case, Principal A will fail to correctly predict the index assignment, because 'herself' is in a top-level specifier position and nothing can bind it. So here we have a sentence demonstrating that Principal A cannot apply at S-Structure when we take into account Head Movement rules.