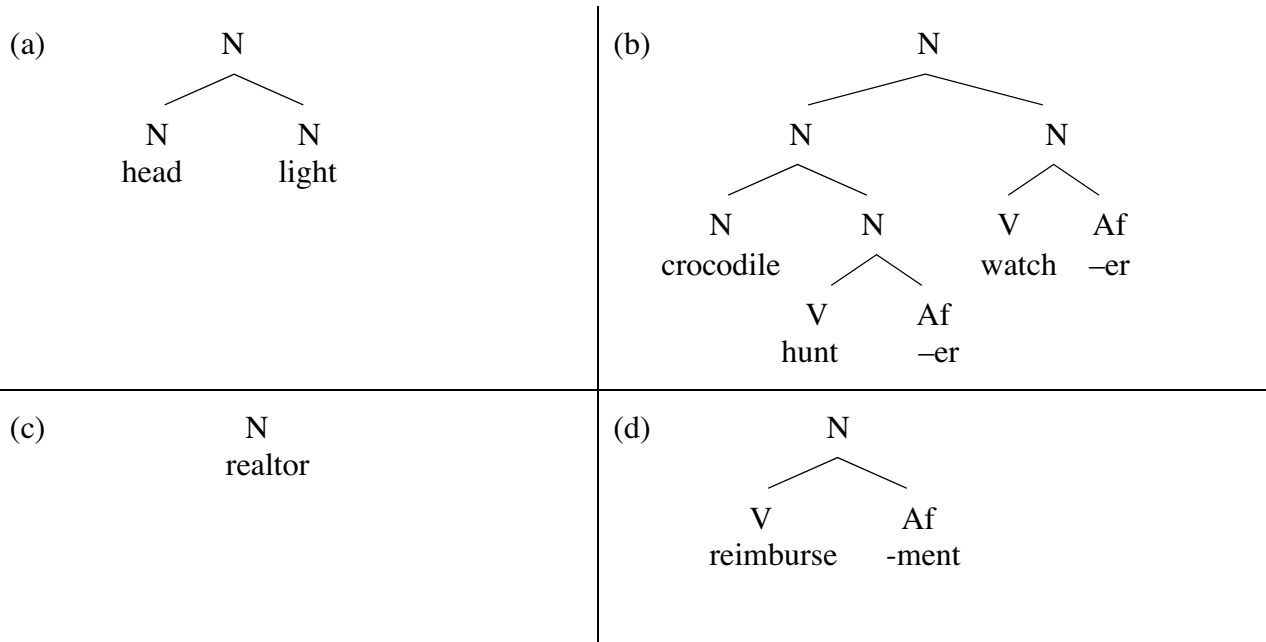


Here are some morphology and syntax problems that you can use as practice for the morphology and syntax parts of the final exam. An answer key will be posted shortly.

Part I Morphology

(1) Draw morphological trees for the following words:



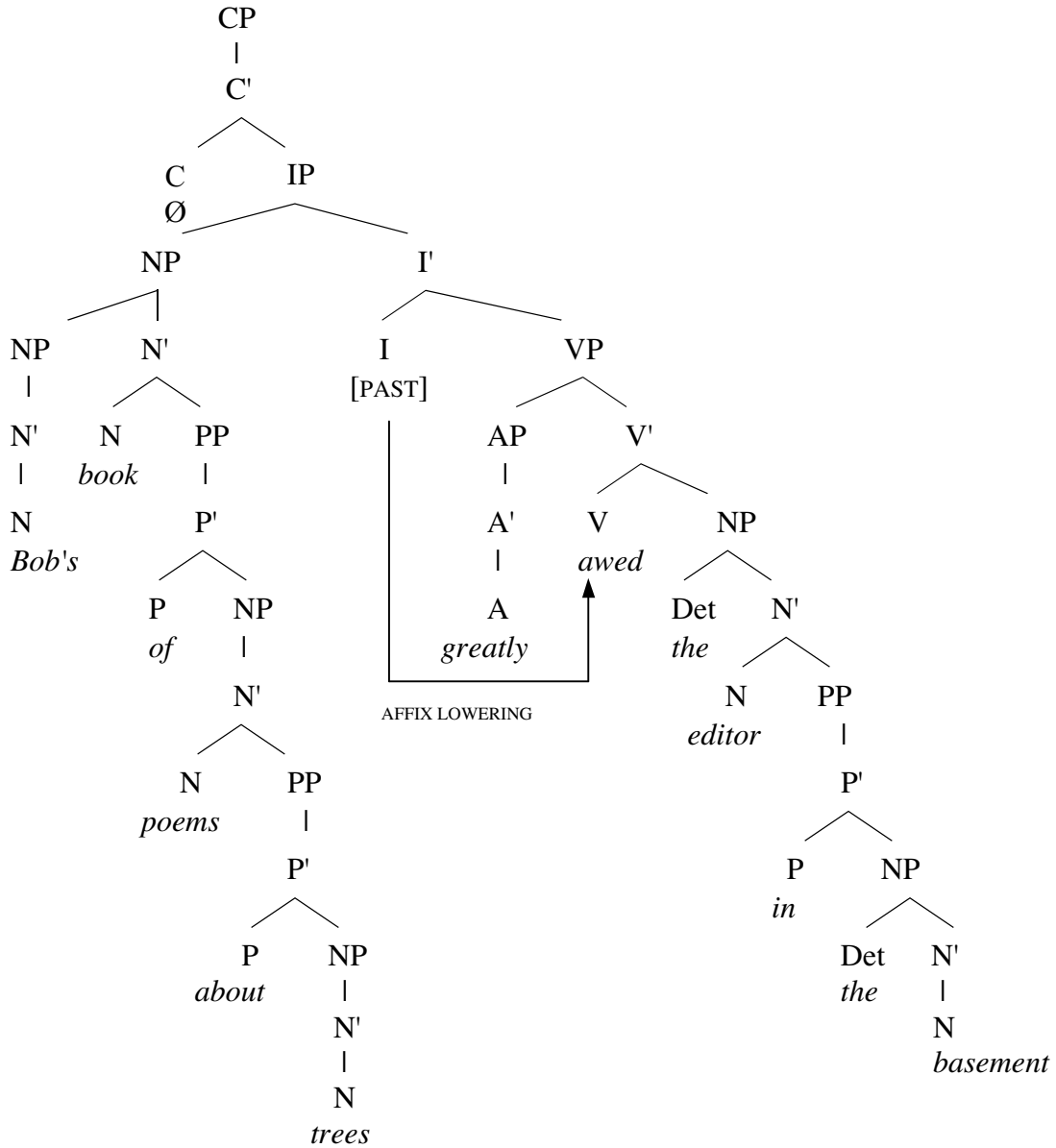
(2) Provide a justification for the structure you drew in (1d).

Actually, there isn't too much justifying to do. This one was kind of tricky, since "reimburse" is actually a simplex word in English. Note that there is no word *imburse* in English! You should be able to justify your tree structures for more complex words, though.

-ment is an affix that attaches onto verbs, changing them to nouns: *-ment*: $V \rightarrow N$.

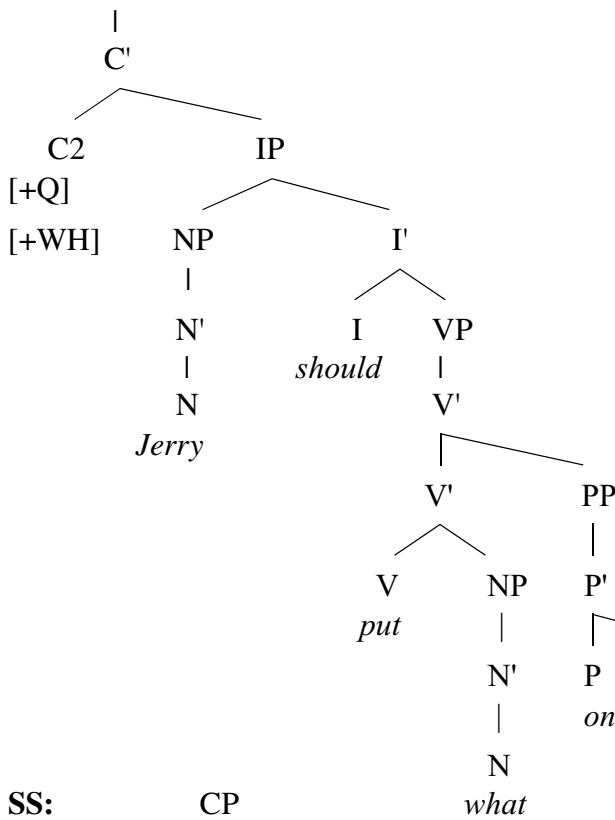
Here, *reimburse* is a verb, and *-ment* is suffixed to it.

(b) Bob's book of poems about trees greatly awed the editor in the basement.



(c) What should Jerry put on the shelf?

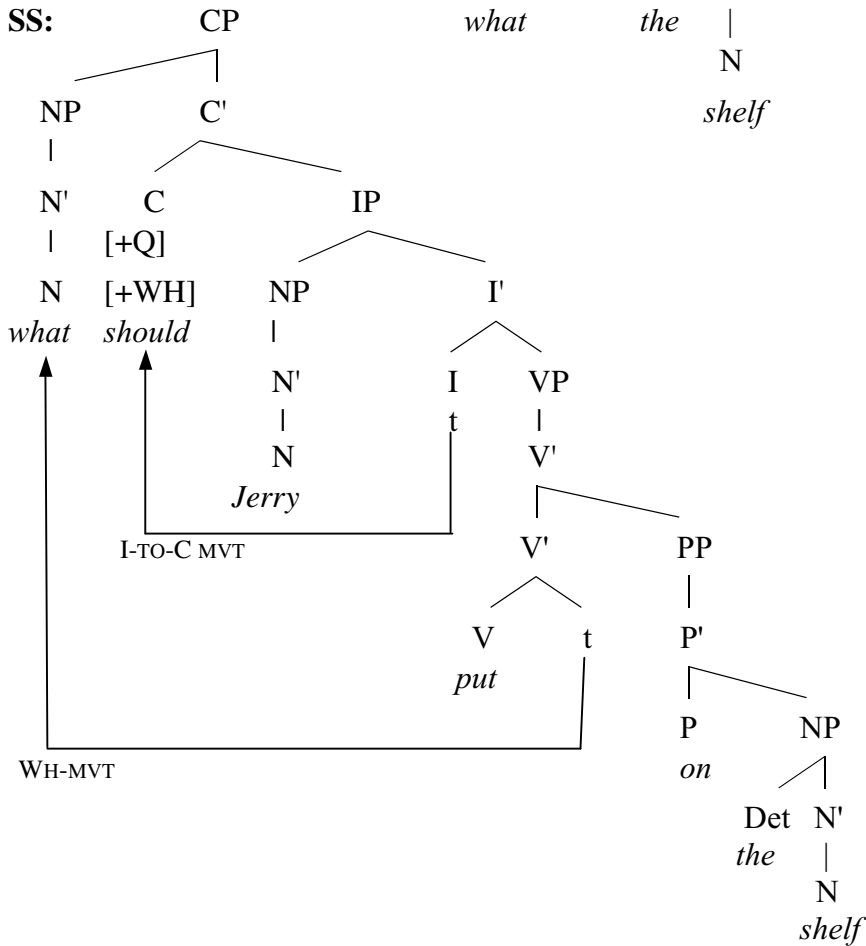
DS: CP2



Note: the PP [*on the shelf*] attaches to V', not N'!

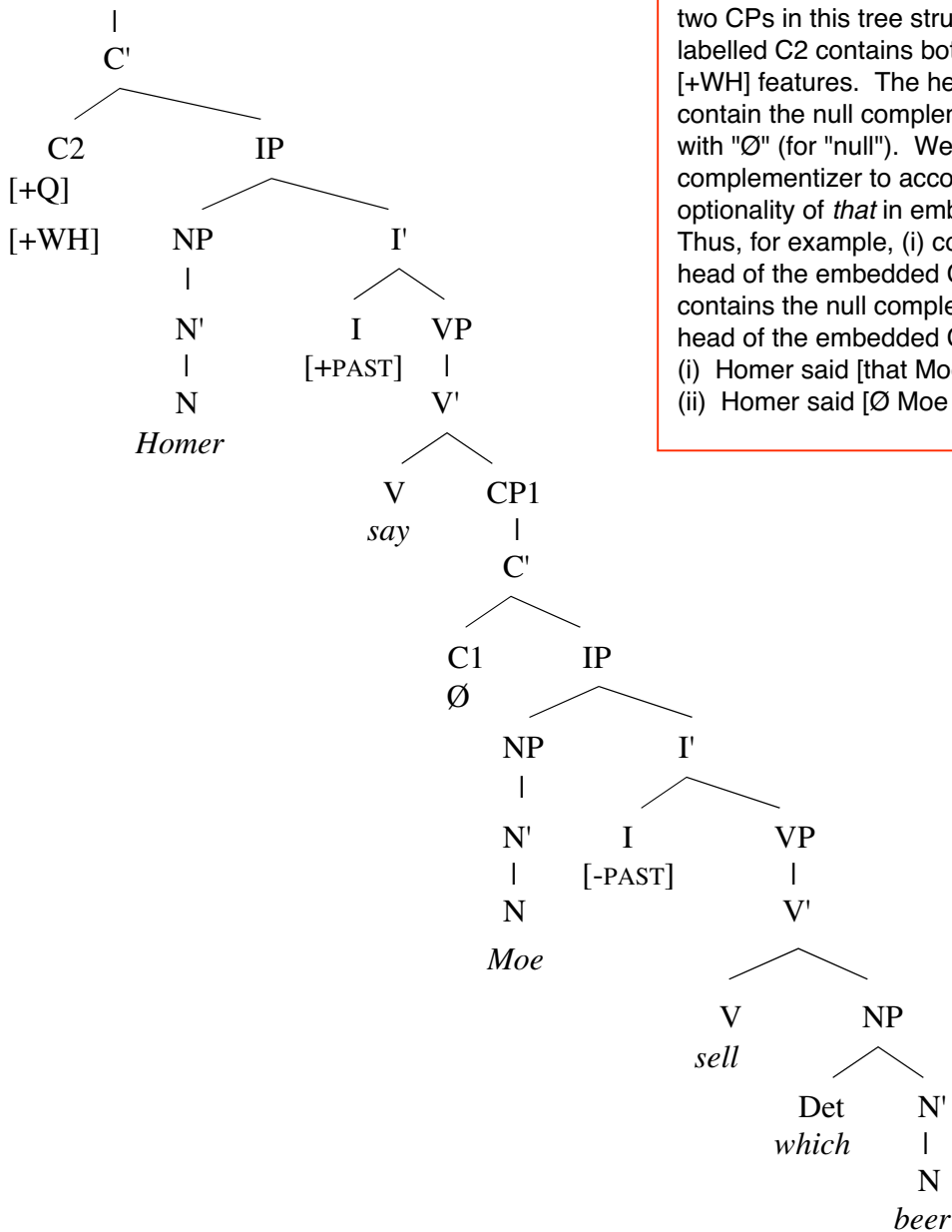
put subcategorizes for [__ NP PP]

SS:



(d) Which beer did Homer say Moe sells?

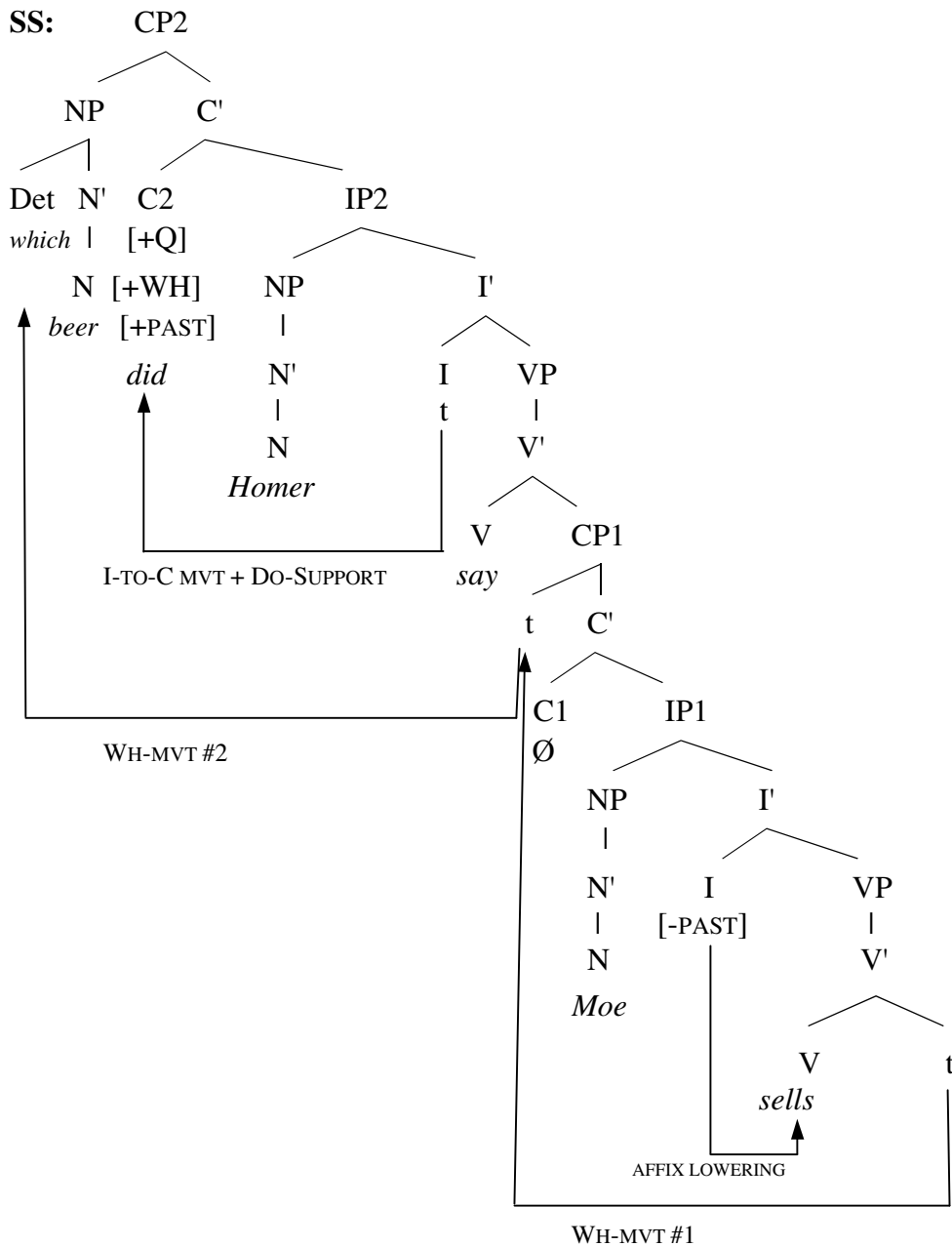
DS: CP2



Note: There are two clauses, and therefore two CPs in this tree structure. The head labelled C2 contains both the [+Q] and the [+WH] features. The head labelled C1 must contain the null complementizer, indicated with "∅" (for "null"). We use the null complementizer to account for the apparent optionality of *that* in embedded clauses. Thus, for example, (i) contains *that* in the head of the embedded CP, while (ii) contains the null complementizer in the head of the embedded CP:

(i) Homer said [that Moe sells Duff beer].

(ii) Homer said [∅ Moe sells Duff beer].



Reminder: Wh-movement must proceed to the highest Specifier of CP (Spec-CP) in successive steps, via intermediate Spec-CP landing sites. In this case, the Wh-phrase *which beer* must undergo 2 separate wh-movements. Spec-CP1 is the first landing site, and Spec-CP2 is the second (and final) landing site. If wh-movement were to take place in "one fell swoop" (i.e., moving directly from the embedded clause up to Spec-CP2), the Subjacency Constraint, which states that wh-movement may not cross more than one bounding node (= IP and NP in English), would be violated. The "one fell swoop" movement would have to cross two bounding nodes, IP1 and IP2.

Note that this indirectly supports our claim that null complementizers exist in English. We *need* an intermediate Spec-CP position in (4)—without it, we would violate Subjacency. But in order to have a Spec-CP position, we need to have a C head, since only heads can project to phrases. We must therefore conclude that we can have C heads which exist in the tree structure, but are not pronounced (i.e., "null").

(2) For each of the sentences in (a)–(f), choose the letter corresponding to the constraint that accounts for its ungrammaticality. The list of constraints is given immediately below:

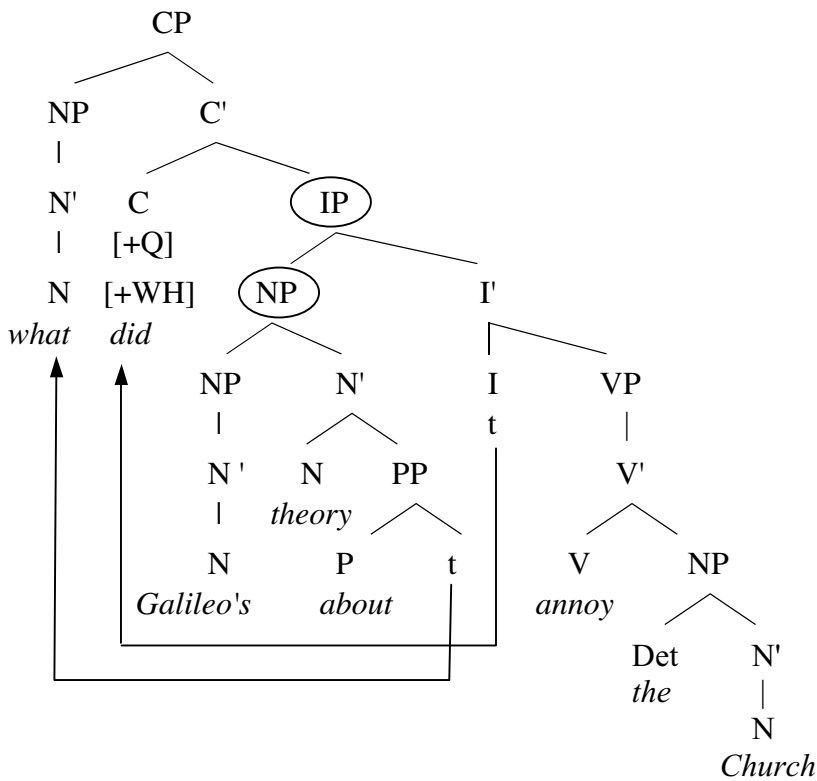
- A) X'-theory
- B) subcategorization requirements
- C) Subjacency

- (a) * Which dessert did Marge suspect who ate? **C**
- (b) * Which book did Lisa put the shelf? **B**
- (c) * The that student always arrives late. **A**
- (d) * Homer drooled the donut. **B**
- (e) * I swung at red the ball. **A**
[intended meaning: I swung at the red ball.]
- (f) * Which girl did Milhous believe the rumor that Nelson kicked? **C**

(3) Explain why the following sentences are ungrammatical. Your answer should be maximally explicit! (I.e., refer to and define the relevant constraint or principle of the grammar that rules this out, and include a tree structure illustrating why this particular sentence violates the constraint. A surface structure tree should suffice.)

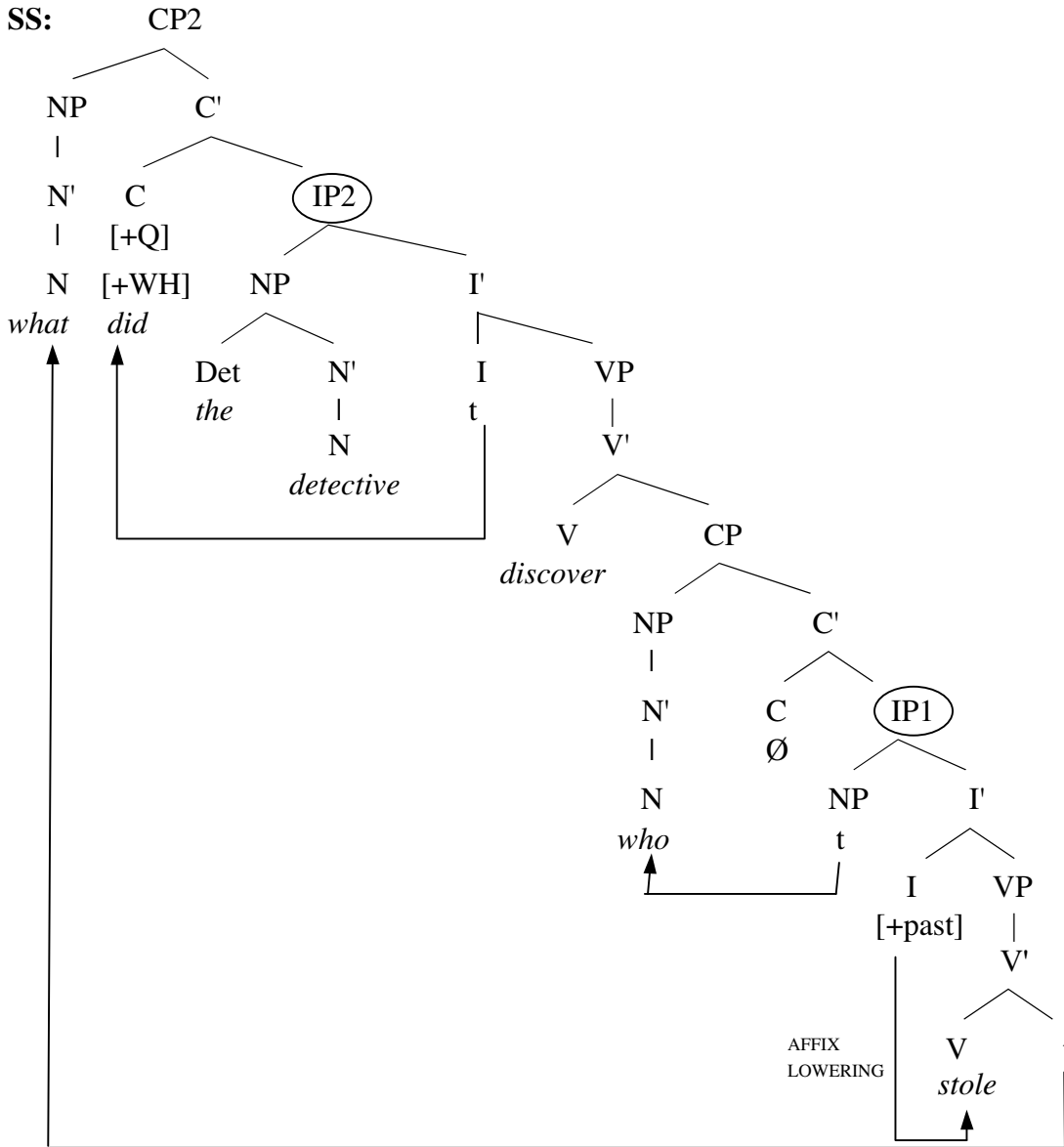
(1) *What did Galileo's theory about annoy the Church?

SS:



Sentence (1) is ungrammatical because it violates the Subjacency Condition, which states that WH-movement may not cross more than one bounding node (where “bounding node” = IP or NP in English). In (1), the WH-phrase *what* crosses two bounding nodes, NP and IP (circled in the tree).

(2) *What did the detective discover who stole?



Sentence (2) is ungrammatical because the movement of *what* violates the Subjacency Condition. The WH-phrase *what* crosses two bounding nodes, IP1 and IP2 (circled in the tree), as it moves to the Spec-CP position of the matrix clause. (Note that the WH-movement of *who* does not violate Subjacency.)

Note that successive cyclic movement is not possible in this structure: the presence of *who* in Spec-CP1 of the embedded clause forces *what* to undergo "one-fell-swoop" movement. If *who* were not present, *what* could undergo two instances of WH-movement, each movement obeying the Subjacency Condition, leading to a grammatical result.

Cf. *What did the detective discover t (that) Holmes stole t?*

Part III More Syntax: Cross-linguistic Variation in Phrase Structure

Consider the following data from Korean. For the purposes of this problem, ignore the case markers (for example, *-ka* (nominative; marks the subject) and *-lul* (accusative; marks the direct object)). **Assume that the *-ta* ending on the verb marks the past tense and is an instance of I (INFL).**

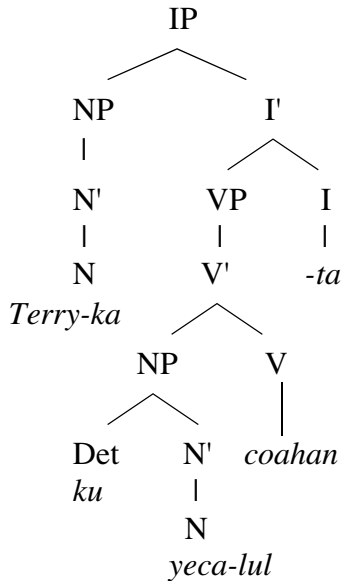
Answer the questions in A–C below.

Abbreviations: Nom = nominative, Acc = accusative

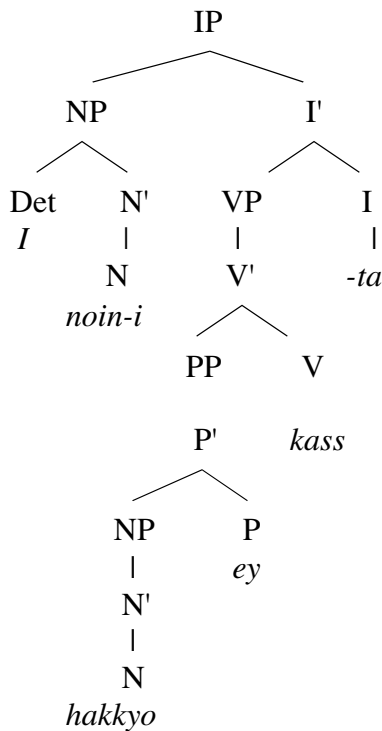
1. Terry-ka ku yeca-lul coahan-ta. [Note: technically, (1) is not in the past tense, but we will assume that it is for the purposes of this problem.]
 Terry-Nom that girl-Acc liked
 'Terry liked that girl.'
2. I noin-i hakkyo ey kass-ta.
 this man-Nom school to went
 'This man went to school.'
3. Sue-ka chinkwu eykey chayk-ul ilkess-ta.
 Sue-Nom friend to book-Acc read
 'Sue read the book to a friend.'

Reminder: Assume *-ta* is in I.

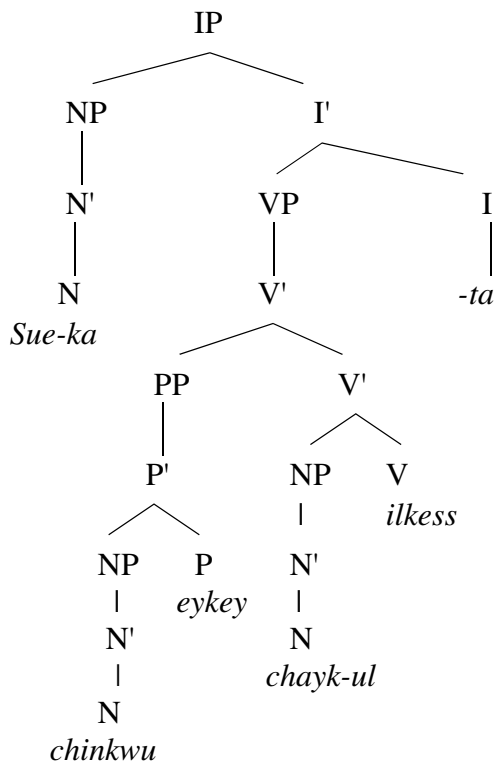
- (1) Terry-ka ku yeca-lul coahan-ta.
 T.-NOM that girl-ACC liked.



(2) I noin-i hakkyo ey kass-ta.
This man-NOM school to went.



(3) Sue-ka chinkwu eykey chayk-ul ilkess-ta.
S.-NOM friend to book read.



B. Do heads precede or follow their complements in Korean?

Heads follow their complements in Korean.

C. Based on the given data, does Korean look to be a head-initial or head-final language? Which phrases provide evidence for this determination? Your answer should include a list of all of the phrase types for which you have explicit evidence.

Based on the given data, Korean looks to be a head-final language.

We only have overt evidence of this for the following phrases:

VP e.g., (1) *ku yeca-lul coahan-ta*
that girl liked
[NP V]

PP e.g., (3) *chinkwu eykey*
friend to
[PP V]

IP [on the assumption that the past tense marker *ta* is in INFL, and there is NO Affix Lowering in Korean]

e.g., (1) *ku yeca-lul coahan-ta*
that girl like ed
[VP I]

NOTE: in the IP example, I've include the entire VP—because the entire VP is the complement of I.

NOTES: (1) If for some reason you did NOT assume that *-ta* is in INFL, but put it together with the verb instead, then you had to make a choice as to whether IP was head-initial or head-final. (I.e., you would have had no overt evidence telling you whether IP is head-initial or head-final.) A reasonable hypothesis to make would be that IP is head-final, given the overt evidence you have for VPs and PPs.

(2) If you assumed that Korean is an Affix Lowering language, then you also do not have evidence for whether IP is head-initial or head-final in Korean, since the past tense affix can lower onto V from either the left or the right side.

REMINDER: the head-initial/head-final distinction is only based on the relationship between a head and its complement. The location of a head's specifier position has nothing to do with this distinction.

Part IV EXTRA CREDIT!

Given the theory you have learned so far, why is (1) surprising? (NOTE: (1) is grammatical, at least in some dialects of English. I actually don't particularly like sentences like (1). For the purposes of this question, assume it is perfectly grammatical.) You do NOT need to include a tree structure as part of your explanation, but do try to be as precise as you can.

(1) Which professor did you introduce before offending?

This sentence is surprising because it appears to contain a mismatch between the number of traces and the number of moved WH-phrases. There should be two traces related to the object *which professor*: one after *introduce*, and one after *offending*. That is, the professor in question is the direct object of both the introducing and the offending actions:

(1') *Which professor* did you introduce **t** before offending **t**?

On the surface, however, we see only one moved WH-phrase, *which professor*. Based on what we have seen so far, there has been a one-to-one correspondence between a moved element and its trace. We might therefore have expected to see two instances of *which professor* in the sentence in (1).

NOTES:

#1 Answers referring to subcategorization frames are along the right track! Both *introduce* and *offend* subcategorize for an NP complement. The WH-phrase *which professor* seems to satisfy the subcategorization frames for both *introduce* and *offend*. But we've never seen this as a possibility before: a single NP satisfying the subcategorization frames of two different verbs.

#2 Answers referring only to the movement of the entire WH-phrase *which professor* are not on the right track. Note that what undergoes WH-movement is always a **phrase**. Thus, in English, you can never move just the *which* part of the WH-phrase:

(2a) Which book did you read t?

(2b) *Which did you read t book?

I may not have made this clear enough in lecture. **What undergoes WH-movement is the entire phrase that contains the WH-word.** (This is a phenomenon known as "pied-piping," a phrase taken from the Pied-Piper of Hamelin story.) In the example in (2a), the entire NP *which book* undergoes WH-movement. And in (1), WH-movement targets the entire NP *which professor*. That is a "normal" part of how WH-movement acts in English.

Remember: *which* is categorized as a DETERMINER, similar to *this* and *that*. It just also happens to have a WH word in it.