Optional final problem on *wh*-movement and islands

Part 1

1. Draw trees for the sentences in (1). Assuming that the bounding nodes for subjacency are DP and CP, indicate *all necessary* instances of *wh*-movement with appropriate circles and arrows. [Please write the *wh*-phrase itself only in the position in which it is pronounced.] Assume for the moment that all three examples are acceptable.

(1)   a. Which books did John say that Mary thinks Tom put __ on reserve in the library?

Your tree should have 3 CPs in it. (Make sure that what follows *thinks* is a CP!) If you're following the instructions to the letter, the DP *which books* (call *which* an instance of D!) moves from the position of the underline to the middle Spec,CP — skipping the lowest Spec,CP. That's because the instructions ask for "*all necessary*" instances of *wh*-movement. In the theory as given in class, with DP and CP bounding nodes, movement to the lowest Spec,CP might be possible (obligatory if the lowest C has the *u*Wh feature), but is not required by subjacnecy. If I were grading it, I'd take off a point or two for not seeing this detail!

I see that my directions asked you only to show *wh*-movement, which was sloppiness on my part. You should also know that *did* moves from I to C.

   b. Whose friends have you taken pictures of __ ?

Who is Spec,DP; *'s* is D; *friends* is NP. Your tree should show this phrase moving directly to Spec,CP. Also: *have* moves from V to I, and then from I to C. [I didn't actually ask you to show this; see above.]

   c. Who did you wonder why I invited __ to the party?

Here, make sure *why* moves from somewhere else (an adjunct sister to I' or an adjunct sister to V' -- this actually corresponds to two different readings) into Spec of the lower CP. I feel I might have misled you by only including one underline. Apologies once more.

Who moves directly from the object position of *invited*, crossing only one bounding node -- the lower CP.

2. Suppose we were wrong about the bounding nodes for English. Suppose they were DP and *IP*.

   a. Do any previously optional instances of *wh*-movement become necessary? If so, which ones, and why? Conversely, do any previously necessary instances of *wh*-movement become optional?

In (1a), movement to the lower Spec,CP now becomes necessary. Otherwise, two IPs would be crossed when *wh* moves to the highest Spec,CP. This way (try it!) only one IP is crossed at a time.

Nothing previously necessary becomes optional.

   b. Do any examples change their predicted status from good to bad -- or from bad to good? If so, explain -- and tell me what *your* judgment is.

Example (1b) should now be unacceptable, since DP and IP are crossed, and there's no landing site within DP. [This seems to be a wrong conclusion.]

Likewise, (1c) should now be unacceptable, assuming there is only one Spec,CP position per CP available for (overt) *wh*-movement in English. Movement of *who* would have to cross 2 IPs on its way to the highest CP, since the lower one is filled. You might wonder whether *who* could move first, then followed by *why*. This appears to be impossible, and might be attributed to a number of factors, which I won't go into here. (You could Google for *strict cycle*. You could also ask me about "traces".)

Part 2

1. Draw trees for the unacceptable sentences in (2). Assume the *wh*-made it to its final destination somehow, perhaps by bribing appropriate border guards, but also assume that it did its best to land everywhere it could on the way.

2. For each example, indicate if any movement step (or steps) violates subjacency on the assumption that the bounding nodes are DP and CP. Say how.

3. If any example violates one of the other constraints that we discussed (perhaps in addition to subjacency), indicate which one(s), and exactly how the constraint is violated.

(2)   a. *Who did you buy a picture of Sue and __ ?

I wouldn't be too picky about your structure for *Sue and who*. The answer to question 3 is "Coordinate Structure Constraint". I suppose if you decided on a [DP DP and DP] structure, you might see *who* as crossing two DPs and thus as a subjacency violation. This couldn't be a general theory of CSC effects, though, since non-bounding node categories show the same phenomenon, e.g. *How proud is Bill very tall and ___, where it's an AP that's extracted, and subjacency would say nothing special about extraction from [AP AP and AP] .

b. *With what tools did Mary report [my belief that Sue had fixed the sink __]?

The moved phrase *with what tools* should start as an adjunct (sister of V') in the lowest CP. Call *what* a D. The noun *belief* should take the *that*-clause as its complement, i.e. as its sister.

Given my instructions, *with what tools* should be shown to stop in the Spec,CP of the lowest clause. Next it moves to Spec of the highest CP.

This second step crosses the lowest CP and the DP right above it. which violates Subjacency. This is the effect called the Complex NP Constraint (CNPC).

Make sure, by the way, that *my* is shown as *me* in Spec,DP and *'s* as D. That is, *me's* —> my/

c. *Who has [a book about __] persuaded Mary to attend MIT?

First of all, make sure that *Mary* is the first of two complements to the verb *persuade*, and that the second complement is a CP with a null C and with PRO controlled by *Mary* as its subject. Do *not* draw *persuade* as an ECM verb.

The *wh*-movement action, of course, involves the subject of *persuade*. Make sure *a* is D. I think the *about* phrase is probably an adjunct modifier of *book* (cf. *The book about John was longer than the one about Mary*). If so, this is a CED violation. If you draw the PP as a complement of *book*, subjacency with DP and CP as bounding nodes will not rule this out, since only one bounding node -- DP -- is crossed.

d. *Which magazine did Sue wonder who Tom convinced __ that Harold read __ ?

First of all, make sure that the verb *convince* has two objects. The first is the DP *who* (before movement) and the second is the CP *that Harold read which magazine* (before movement). *Who* moves to Spec of the CP complement to *wonder*. *Which magazine* moves first to Spec of the lowest CP (*that H. read*) and then to Spec of the topmost CP -- skipping the middle Spec,CP, which is need for *who*. The first step of movement of *which magazine* is ok, but the second step crosses to CPs -- the lowest (*that H. read*) and the middle CP (*who Tom convinced that H. read.*). This violates subjacency. The effect is called the Wh-island Condition.

e. *Which bridge did Bill meet the engineer who had constructed __?

The phrase *who had constructed which bridge* is a relative clause that modifies *the engineer*. The absence of a comma after *engineer* makes this a restrictive relative clause, thus a sister to N'. Within the relative clause there is a null C and *who* moving from Spec,IP to Spec,CP.

In addition, of course, *which bridge* moves from the object position of constructed. Since Spec,CP of the relative clause is needed for *who*, it cannot stop there, nor can it stop in Spec,DP (because D doesn't have the features to trigger *wh*-movement), so its next step -- directly to the Spec of the topmost CP -- crosses CP (the relative clause) and DP , which means it violates Subjacency. The particular case of Subjacency that is violated is called the Complex NP Constraint (CNPC).

Since relative clauses are adjuncts and not complements, the sentence also violates the CED.

f. ??Whose dog did Tom keep gerbils and take care of __?

I would not be picky about the tree for the coordination. The key point is that movement of *whose dog* violates the clause of the Coordinate Structure Constraint that excludes movement *out of* a conjunct.

Make sure *whose* is decomposed as *who's*, with *who* in Spec,DP and *'s* as D.

g. ??Mary-ga [DP [CP John-ga   [ittai   nani-o)   yonda] koto-o]
     Mary-NOM   John-NOM on-earth   what-ACC read   fact-ACC

   wasureteiru-no?
   remembered- Q

Practice in Japanese tree drawing! It should be exactly the same tree that you would draw for an English sentence like *What (did) Mary remember(ed) the fact that John read __*, except that each head follows, rather than precedes, its complement. Also, there is a null C heading the CP complement to *fact*. I would not be picky about where *ittai* 'on earth' attaches.

Also, of course, the *wh*-movement is covert rather than overt in Japanese!

Part 3

For many speakers, the following two sentences contrast. What is the reason for the contrast, and what does this tell us about how movement works?

(3)   a. ??What did you persuade whom to buy __?

      b. Who did you persuade __ to buy what?

The issue here is "Attract Closest". (This effect is called a Superiority Effect.) *Who* is closer to the matrix CP than *what*, and should be the element that undergoes *wh* movement first.

Draw a tree for (3b).

Assume, as discussed in the final week, that English is like Bulgarian after all -- except that some of the movements that are overt in Bulgarian are covert in English. Indicate all instances of movement with appropriate circles and arrows, marking which one(s) are overt and which, covert.