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1. Trees. For the sentences a–f, **draw the structure of the sentence. Where something moves, draw an arrow from the trace to its next position. Mark [*u*clause-type:] and [*u*wh*] features, and show how they are checked/valued by drawing a line between the heads that have the matching features**. You need not mark the other features.

Ground rules: Mostly as with the last homework; (implicit or explicit) triangles are ok within DP. No need to mark the case of DPs or how the case is checked. **When something moves, indicate it with an arrow from the place it moved from to the place it moved to**. You can write "V+*v*" or "N+*n*" instead of drawing the full complex head, but you still need to draw the movement arrow that ends at N or V.

(1)　　a.　Which book did Igor read?
　　　　b.　Who was introduced to Pat?
　　　　c.　Did the boat sink?
　　　　d.　When did Pat find the note?
　　　　e.　Who appears to have left early?
　　　　f.　Who should Pat want to call him?

Example: *Who did you meet?*
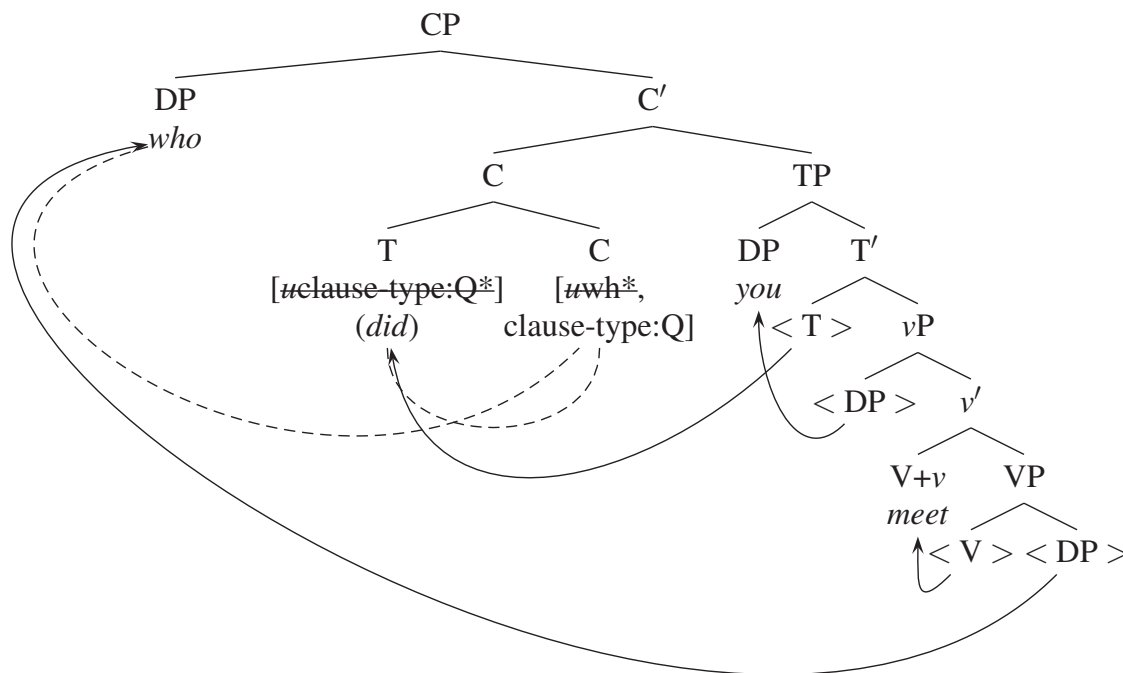
Binding theory and *wh*-movement. (Inspired by a problem from Roberts 1997). Under certain circumstances, anaphors can be bound inside DPs. So, (2) is grammatical.

(2) John$_i$ likes [$_{DP}$ songs about himself$_i$].

Part A. Draw a tree for (3) (same ground rules as at the beginning of this homework—implicit triangles are ok, case need not be marked, when something moves draw an arrow, you can use V+v when writing complex heads.

(3) Who did Mary give a song about herself to?

Part B. Draw a tree for (4).

(4) [$_{DP}$ which song about himself$_i$] does John$_i$ like?

Part C. (4) is grammatical, so it must satisfy Principle A. It doesn't *look* like it does, though. Assume Principle A is correct as it is (anaphors must be bound within their binding domain). Briefly explain how (4) satisfies Principle A. *Hint*: Think about what we write as "<DP>"—that's just a shorthand, really. "Movement" is a process of making a copy of the thing we're moving and then Merging/Adjoining the copy at the top. You can assume that when you make a copy of an anaphor, only one of the copies needs to be bound.

Part D. Briefly explain why *she* in (5) cannot be *Mary*.

(5) * [$_{DP}$ which song about Mary$_i$] does she$_i$ like?

Part E. What is the binding domain for Principle A? (Is it TP or CP?) We've not so far been very explicit about what the binding domain (for Principles A and B) is exactly—it's just been "the clause." That could mean either TP or CP. But, we're in a position now to make this determination. Consider (6), where *himself* can refer either to *David* or to *Nigel*. This is predicted, but it also indicates that an anaphor like *himself* need not be bound by the closest possible binder—it just has to be something within the binding domain. Both *David* and *Nigel* are inside the binding domain. Now consider (7)—in (7), *himself* can be *Derek*, but it can't be *David*. So, here's the question: **What is the binding domain for Principle A (TP or CP)?**

(6) David$_i$ gave Nigel$_j$ a picture of himself$_{i/j}$.

(7)   David$_i$ believes Derek$_j$ to have taken a picture of himself$_{j/*i}$.

Questions below here require having gotten to "locality" and "islands."

Part F. Go back to Part C and remind yourself about what you said. Then, consider (8).
Draw a tree for (8).

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(8)   [$_{DP}$ which songs about himself$_{i/j}$] did Nigel$_i$ say that Derek$_j$ likes?

Part G. Explain how it is possible in (8) for *himself* to refer to *Nigel*, and how it is
possible for *himself* to refer to *Derek*.

Part H. (Inspired partly by Adger 2003, ex. 9.6.). **What seems to be the problem
with (9)?** There's no easy solution to this problem, the traditional solution has been
to slightly complicate the definition of "binding domain." More recent solutions often
involve altering the means by which accusative case is checked. For now, you just need
to **identify what it is about (9) that would have led us to predict that is should be
ungrammatical.**

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(9)   Derek believes himself to have the role of lukewarm water.

Problem 2. Island identification.   Each of the following sentences is ungrammatical,
because a *wh*-word has been moved out of an island. Name the islands that the *wh*-word
was "trying" to escape.

(10)   * What did John buy a hat because Mary bought?
(11)   * What did John know who asked Mary to buy?
(12)   * Who did John read the first book by?
(13)   * Who did John wonder why Mary dated?
(14)   * Which books did John misplace the box of?
(15)   * Who did John laugh after he gave a book to?
(16)   * What did John know who started the rumor about?