Homework #9 DUE THU DEC 7

## **1** Island identification

Each of the following sentences is ungrammatical, because a *wh*-word has been moved out of an island. For each sentence, name the type(s) of island that the *wh*-word was "trying" to escape. **You don't need to draw the trees (for me, anyway).** The relevant types are: DP island, adjunct island, *wh*-island.

- (1) \* What did John buy a hat because Mary bought?
- (2) \* What did John know who asked Mary to buy?
- (3) \* Who did John read the first book by?
- (4) \* Who did John wonder why Mary dated?
- (5) \* Which books did John misplace the box of?
- (6) \* Who did John laugh after he gave a book to?
- (7) \* What did John know who started the rumor about?

## 2 Constructing examples

When testing the predictions a hypothesis makes, it is useful to be able to construct a sentence with specific characteristics. Here you will get some practice. Give me an example of each type of sentence. Some will not be grammatical, but give me the sentence anyway, it's part of testing hypotheses.

- (8) A *wh*-object moving out of an adjunct island
- (9) A *wh*-subject moving out of an infinitive clause
- (10) A multiple-*wh* question with the lower *wh*-phrase inside an adjunct island
- (11) A wh-adjunct moving out of a wh-island
- (12) A long-distance *wh*-movement, where the movement starts in an embedded tensed clause, moves through an infinitive clause, and then into the main clause

## **3** What exactly

Pat tells your roommate that you are about to go to the store to buy something, and so as you are about to leave your roommate stops you, apparently suspicious that you are about to go buy something reckless or unnecessary or annoying. As if. You investigate the situation further, by asking the following questions in quick succession.

- (13) a. What exactly did Pat say that I planned to buy?
  - b. What did Pat say that I planned to buy exactly?
  - c. What did Pat say exactly that I planned to buy?

Even though your roommate replies with "A book about syntactic theory," you persist, no longer really interested in the answer but now in the questions themselves. You ask the following questions (though this time making a "this tastes terrible" face after the last one).

- (14) a. What did I plan exactly to buy?
  - b. What did I plan exactly for them to buy?
  - c. \* What did I seem exactly to buy?

After a few seconds, during which you have been staring at the ceiling in thought, your roommate frowns and asks "what exactly are you doing?"

You pull out a piece of paper and start drawing a couple of trees.

**Part 1. Draw a tree for "What did I plan to buy?"** Don't mark any features or case, just the structure. No triangles, there's not much here that would merit a triangle.

**Part 2. Draw a tree for "What did I seem to buy?"** Don't mark any features or case, just the structure. No triangles, there's not much here that would merit a triangle.

**Part 3. Where do we expect "exactly"?** Specifically, what explains the difference between (14a) and (14c)?

Your roommate, nodding, decides to buy a book about syntactic theory as well. Mission accomplished.

## 4 English main stress

(Based on Bresnan (1972))

Before we start, let's just remind ourselves of why *wh*-phrases move to the specifier of each CP along its path from its original position to its final position. The story is that the CP represents a "phase" and when a phase is spelled out, it becomes opaque to further syntactic operations. So a *wh*-phrase moves to the edge of the phase because if it didn't, it would be stuck inside the phase once the TP is frozen by spellout.

**Part 1. Is** *wh***-movement before spellout, or after it?** This is not supposed to be difficult, only one answer makes sense given the text directly above.

If the computational system operates in phases, there can still be syntactic combination that occurs higher in the structure, followed by additional spellouts, and finally the overall semantic interpretation. This predicts that we might be able to find evidence that phonological effects in a lower phase precede some syntactic movement or combinations occurring in a higher phase. Essentially what we are looking for is a phonological effect that occurs in a certain syntactic environment, but where a higher phase alters the syntactic environment so that the trigger is no longer there. In phonology, this kind of thing is sometimes called "opacity." It turns out that there are some things that at first glance look promising, we'll look at one of them here.

In English, the main stress falls at the end of the sentence generally (the "Nuclear Stress Rule"), as in (15a) and (15b).

- (15) a. Helen has written that BOOK.
  - b. Helen has given that book to JOHN.

But if you turn (15a) into a *wh*-object question like in (16a), the stress comes not at the end of the sentence, but on the moved *wh*-object. And yet if you do seemingly the same thing to turn (15b) into a *wh*-question, as in (16b), the stress is not on the *wh*-object, but appears at the end of the question. (That's not to say that (16c) has no interpretation, but it can't have the neutral interpration—it would be interpreted instead as having some kind of non-neutral focus on "book.")

- (16) a. Which BOOK has Helen written?
  - b. Which book has Helen given to JOHN?
  - c. # Which BOOK has Helen given to John?

**Part 2. Where does the main stress go?** If we assume that the Main Stress Rule is simple and is responsible for placing the main stress in these cases, how might stress wind up on "book" in (16a)?

**Part 3. Is** *wh***-movement before stress assignment, or after it?** This is not supposed to be difficult, only one answer makes sense given the text directly above.

Is this what we wanted? Kind of. Except the answers to part 1 and part 3 seem to be contradictory.

Let's proceed out onto a limb and see if we can resolve the paradox. Note though that there are several ways one could go here, and each make predictions well beyond what we can test now. What we want is: stress assignment to see the *wh*-object in its original position, but without the *wh*-object getting trapped during spellout.

For the *wh*-object not to be trapped, it needs to move to SpecCP before spellout makes it inaccessible. C is a phase head, and when CP finishes, it triggers the spellout of TP. (After which the whole sentence finishes and triggers spellout of the rest.)

**Part 4. Draw a tree for "What did you buy?"** Don't mark any features or case, just the structure. No triangles, there's not much here that would merit a triangle. This is like the trees in the previous problem except one clause simpler.

So let's look at the TP we will be spelling out. There is a copy of the object at the bottom of the tree. If we assign stress to the TP as if the copy were pronounced, stress would land in the correct place. Perhaps we assign stress first, and then silence the copy afterwards.

Except that doesn't make much sense either—if we assign stress to the copy but then don't pronounce it, how does that help? Somehow we need it to be that if we assign stress to the copy, it is *realized* on the moved element.

Actually, we had kind of been facing/ignoring a version of this problem before anyway. A modal in a tensed English clause has a [uInfl:] feature that can only be checked by moving up to T. Making a copy and adjoining it to T, which puts the  $[uInfl:past3sg^*]$ feature close enough to check. But how did that help? We make a copy of M with its [uInfl:] feature and... now we have two [uInfl:] features, one on each M. The new one gets Adjoined to T, and that one gets checked. But what about the original one?

Obviously, for this to make any sense, we need to disregard the original one. Perhaps we suppose that the [uInfl:] feature is a strictly phonological feature, and so by leaving the lower copy unpronounced, the uninterpretable feature does no damage. Or, we need to connect the copies so that doing something to one of them will also do that to the others. The stress assignment facts from *wh*-movement seem to point to this second version: doing something to one copy affects all copies. And yet, that's... clunky. Seems stipulative, it doesn't fall out from the system. The system could have been different, but wasn't.

But one way it *could* fall out of the design of the system is if there aren't actually any copies made at all. What if, rather than making a copy of the object and Merging it with C' we just Merge the actual object itself with C'? Creating what is called a "multidominance" structure, where the object DP has two mother nodes, one being the VP, and the other being the CP. Then any features we check on it are checked, any pronunciation changes we apply to it are applied. We pronounce it once and after that it's already pronounced, so it doesn't get pronounced in any of its lower positions. This is also arguably simpler, not least because we don't need to posit a "copy" operation. **Part 5. Draw a multidominance version of the tree for "What did you buy?"** Don't mark any features or case, just the structure. There will be no nodes marked with  $\langle \rangle$  symbols, there will be no copies. Indicate head-movement of V to *v* (head-adjunction) as an arrow from above V to below *v*, same for T to C. Both TP and *v*P should be mothers of the subject, both CP and VP should be mothers of the object. It will look weird, but yet simpler.

Ok, now we're getting somewhere. If we spell out the TP (only, ignoring the CP above it), stress would be assigned as if the object were still in place, but when we spell out the CP later, that object gets pronounced before the TP (and then not within it, since it has already been pronounced). Perfect.

Below are the judgments I get for stress placement in "What did you buy?"—which, wait. Having just set up this nice system to get stress onto the moved *wh*-phrase, it seems as if here it still goes at the end.

- (17) a. What did you BUY?
  - b. # WHAT did you buy?

I think this is still predicted. That is, I think we have predicted both (16a) and (17a).

**Part 6. Explain how the stress pattern on (17a) is predicted.** Hint: I think he placement of stress in (18a) is relevant to how it is predicted.

(18) a. You BOUGHT it.b. # You bought IT.