Problem 1. Constituents.

Part 1. Using the constituency tests from the class handout (replacement, sentence fragment, topicalization, and clefting—you may skip the ellipsis test), determine whether each of the following strings of words in (a–i) are constituents of the sentence in (1). Specifically, show how you applied each of the four tests by constructing a relevant sentence and determining if it is grammatical or not. An example is shown below.

(1) The elated student of history received a book of postcards from Greece.

Example: postcards

Replacement:
The elated student of history received a book of them from Greece.

Sentence fragment:
? What did the elated student of history receive a book of from Greece?

? Postcards.

Topicalization:
? Postcards, the elated student of history received a book of from Greece.

Clefting:
* It was postcards that the elated student of history received a book of from Greece.

Conclusion: A CONSTITUENT.

(a) The elated student
(b) The elated student of history
(c) elated student of history
(d) from Greece
(e) a book of postcards from Greece
(f) postcards from Greece
(g) of postcards from
(h) a book of postcards
(i) received a book of postcards from Greece

Part 2. You’ll notice that the sentence in (1) is ambiguous: it can mean one of at least three things: (i) the book was from Greece (but may have been obtained elsewhere), (ii) the book arrived from Greece, or (iii) postcards from Greece made up the contents of the book. Make three lists, one for each meaning. For each string in (d–i) above that you found to be a constituent, determine if the sentences you used to test for constituency are compatible with each of the three meanings.

Example: (e) above—yes, I’m giving away part of the answer—goes in lists (i) and (iii), but not in list (ii). The test sentences, e.g., It was a book of postcards from Greece that the elated student of history received, cannot mean that the book arrived from Greece.
Part 3. Concentrate now on meanings (ii) and (iii), disregard the meaning in which the book itself was produced in Greece. Write the sentence in (1) twice, once for each meaning, with brackets surrounding each of the constituents in the list for that meaning you wrote in Part 2:

Example: Given that (e) is in list (iii), one set of brackets you will draw for the sentence with meaning (iii) will be like this:

Meaning (iii) (the postcards are from Greece):
The elated student of history received [a book of postcards from Greece]

You will (potentially) add other brackets as well, and do the same for the sentence with meaning (ii).

Part 4. Now, take your two sentences with brackets and draw them as trees. Use triangles above strings of words that do not have brackets within them. See the lecture handout for an example, or the example tree from problem #3 below. Also: don’t worry about “binary branching”—for now, it’s fine for a node in your tree to have several daughter nodes.

Part 5. Look at the word postcards. Which constituent is it part of in meaning (ii)? Which constituent is it part of in meaning (iii)? Briefly explain why the constituency tests (for strings that include cars but not both book and Greece) disambiguated the sentence.

Part 6. Consider the string postcards from the example in Part 1. The conclusion was that it is a constituent (it had to be, a word is always a constituent), but yet it failed the topicalization and clefting tests, and didn’t do that well on the sentence fragment test.

Here’s why: The word postcards in inside the noun phrase headed by book (under any of the three interpretations). Think about that for a minute to ensure that you get the intuition. There is a phrase in which the “most important” word is book. You can replace this noun phrase with another noun phrase, such as a pamphlet, or one, or it. If asked what kind of a thing this noun phrase is, you would say it is a book.

All of the tests except the replacement test involve taking the would-be constituent and putting it somewhere else in the sentence (in the fragment test, this happens partly by replacing the would-be constituent with a question word, then saying the question word first). But such procedures systematically fail if the string you are testing is inside a noun phrase, for reasons we will return to later in the semester. This is part of the reason for the repeated warnings that even true constituents might not pass all of the constituency tests—a test sentence might end up being ungrammatical for a different reason, such as an attempt to relocate the string from within a noun phrase.

Giving away yet another part of the homework, (d) from Part 1 (from Greece) is a constituent, but the test sentences for all of the tests that relocate the string (sentence fragment, topicalization, clefting) seem to be compatible with only one of meanings (ii) and (iii).
**Your task:** Briefly explain why that is, given what I’ve said above. That is, why are the test sentences for the fragment, topicalization, and clefting tests compatible with one of the two meanings and not with the other?

**Problem 2. Constituents, brackets, and trees.** The sentence in (1) is ambiguous. The two different meanings that the sentence can have correspond to two different constituent structures. Using the methods from Problem 2 above, determine what the two structures are (no need to write all of your tests down in what you hand in). Draw two trees (no node labels, more than two daughters are ok), one for each meaning, and write the sentence with brackets around (multiple-word) constituents for each.

(1) Pat hit the man with a stick.

*Example: Had the sentence been* *Pat gave a man a book* (which is unambiguous, so there’s only one tree), your tree might look like this:

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Pat
   gave
     a
     man
     a
     book
```

Your bracketed string would look like this:

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[ Pat [gave [a man] [a book] ]
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