

1 Korean

So far we have been concerned strictly with grammars for English. In this exercise, we will construct a grammar for a small fragment of Korean.

1.1 Basic Korean sentences

Observe the following data. Note: In all examples *SUB* stands for *subject marker* and *OBJ* stands for *object marker*. Depending on whether the object ends in a consonant, it might be either *lul* or *ul*, but the difference is like English *a* vs. *an*. In your grammar, treat it as *lul* everywhere (don't have two different subject markers).

- (1) Chelswu ka ulessta.
Chelswu SUB cried
'Chelswu cried.'
- (2) Chelswu ka ku sakwa lul poassta.
Chelswu SUB that apple OBJ saw
'Chelswu saw that apple.'
- (3) Chelswu ka Sunhi lul conkyenghanta.
Chelswu SUB Sunhi OBJ respect
'Chelswu respects Sunhi.'
- (4) Chelswu ka ku kemun kae lul cohanta.
Chelswu SUB that black dog OBJ like
'Chelswu likes that black dog.'
- (5) Chelswu ka hakkyo e kassta.
Chelswu SUB school to went
'Chelswu went to school.'
- (6) Chelswu ka Sunhi eykey chayk ul cwuessta.
Chelswu SUB Sunhee to book OBJ gave
'Chelswu gave a book to Sunhi.'

Part 1. Give a grammar that generates these Korean data.

Part 2. Check to see whether your grammar generates any of the ungrammatical examples below. It probably does. If your grammar does generate any of these, revise it so that they will be correctly excluded. Give the new set of rules (assuming you changed them).

- (7) a. * Chelswu lul ulessta.
- b. * Sunhi ka Chelswu lul ulessta.
- c. * Chelswu ka poassta.
- d. * Chelswu ka Sunhi lul chayk ul cwuessta.

Note: Any Korean speakers, consider (7c) to be ungrammatical. (It is grammatical, but for a reason we are not ready for yet.)

Part 3. Give the phrase markers (tree diagrams) that your grammar above assigns to sentence (1) through (6).

1.2 Incorporating conjunction

Consider the following additional Korean facts:

- (8) Chelswu ka Sunhi eykey i chayk ul kuliko ku phyen ul cwuessta.
Chelsu SUB Sunhi to this book OBJ and that pen OBJ gave
'Chelsu gave this book and that pen to Sunhi.'
- (9) Chelswu ka Sunhi eykey kuliko Jae eykey chayktul ul cwuessta.
Chelsu SUB Sunhi to and Jae to books OBJ gave
'Chelswu gave books to Sunhi and Jae.'
- (10) Chelswu ka ku chayk ul Sunhi eykey kuliko i phyen ul Jae eykey
Chelsu SUB that book OBJ Sunhi to and this pen OBJ Jae to
cwuessta.
gave
'Chelswu gave that book to Sunhi and this pen to Jae.'

Now do the following:

Part 4. State what rules you must add to your grammar in order to generate the conjunctions in (8) and (9).

Part 5. Give the phrase marker your rules assign to (8).

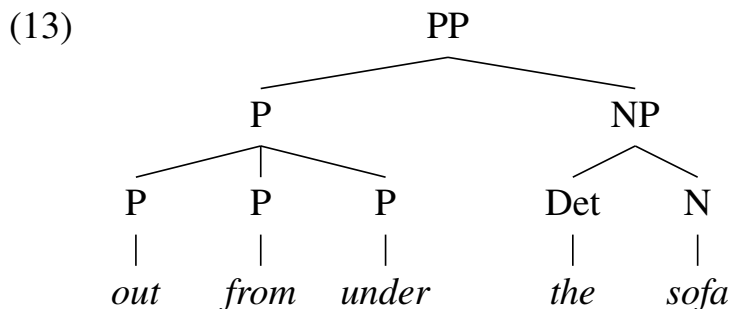
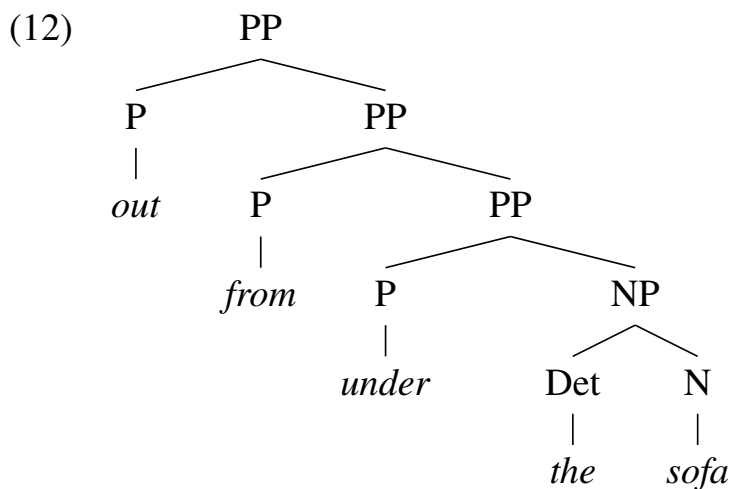
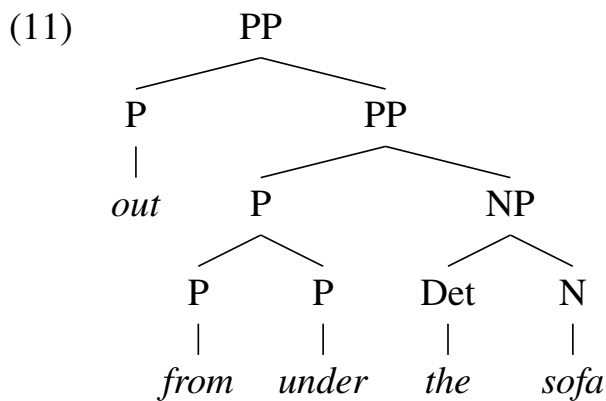
Part 6. Do your rules also generate (10)? If they do, give the phrase marker they assign. If they do not, explain why they do not.

1.3 Reflection

Part 7. On the basis of your results for Parts 1.1 and 1.2, compare the structure of Korean with that of English. Discuss any similarities and differences you can see in their syntactic patterning and/or their phrases structure rules. Be precise and explicit.

2 Out from under the sofa

Along with simple PPs like *under the sofa*, English contains more complex PPs like those in *Bart jumped out from under the sofa* and *Lisa came in out of the rain*. Three potential structures for the PP *out from under the sofa* are shown in (11), (12), and (13).



Now consider the following well-formed sentences:

- (14) Bart jumped out from under the sofa and out from behind the chair.
- (15) Bart jumped out from under the sofa and from behind the chair.
- (16) Bart jumped out from under the sofa and behind the chair.
- (17) Bart jumped out from under the sofa and Lisa jumped out from there too.
- (18) Bart jumped out from under the sofa and Lisa jumped out from under it too.
- (19) From under the sofa, Bart jumped out.
- (20) Out from under the sofa, Bart jumped.
- (21) Bart jumped out from under the sofa and the chair.

Note: (15), (16), and (21) are to be understood as meaning the same as (14).

Part 1. Look at each box in the table below. Put a check in the box if the tree structure *does* predict the sentence to be grammatical. Put an x in the box if the tree structure *does not* predict the sentence to be grammatical.

Tree/Sentence	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
(11)								
(12)								
(13)								

Part 2. Given your results in Part 1, which tree diagram—(11), (12), or (13)—seems to give the best account of the structure of *out from under the sofa*? Explain your reasoning.

Part 3. What problem does the following well-formed example raise for the results so far?

- (22) Kids jumped out from under and out from behind the sofa.

3 Constituents

- (23) They stole a barrel of syrup from Québec.

Part 1. Show that *a barrel of syrup from Québec* is a constituent by creating test sentences using the proform replacement and clefting tests.

Part 2. Show that *from Québec* is a constituent by creating test sentences using the proform replacement and clefting tests.

Part 3. Show that *a barrel of syrup* is a constituent by creating test sentences using the proform replacement and clefting tests.

(24) Mary heard the rumor that Pat kissed Chris.

Part 4. Use the same kind of examples to show that *the rumor that Pat kissed Chris* is a constituent, but that *Chris* seems not to be. Give the test sentences as above and a sentence that says how you reach the conclusion about what is and isn't a constituent. You should wind up with four test sentences (two for the proform replacement test, two for the clefting test).

Now, of course—*of course*—*Chris* is a constituent in (24). So why is it failing some of the constituency tests? It turns out that the displacement and clefting test *systematically fail* when trying to test a constituent that is inside a noun phrase (like *the rumor that Pat kissed Chris*, which is ultimately a noun phrase headed by *rumor*). In other words, something about this is incompatible with the *test* and therefore we can't trust its results.

Let me make that salient by putting it in bold in a box.

The displacement and clefting tests will fail (will produce ungrammatical test sentences) if you test a constituent that is inside a larger noun phrase.

Now, back to Québec and syrup. The sentence in (23) is ambiguous—it can mean a couple of different things, depending on what you understand to be *from Québec*. First, convince yourself of that. (23) can describe a situation where the *syrup* is from Québec, but could have been stolen from anywhere, and the barrel containing the syrup could be from anywhere. So, for example, in a barrel from Peru, stolen from Paris. That's one meaning. It can also describe a situation in which the *barrel* is from Québec, but could have been stolen from anywhere and contain any kind of syrup. For example, a barrel from Québec full of Portuguese syrup, stolen from Seattle. Lastly, it can describe a situation where the stealing was from Québec, and the barrel and syrup could have been from anywhere. The difference in the meanings depends on what *from Québec* is understood to modify.

We hypothesize that the syntax and semantics of sentences are tied together fairly closely, and in particular, we will be assuming the following (which I will again make bold and enbox):

A modifier must form a syntactic constituent with the thing it modifies.

Although we aren't yet looking at trees specifically, only at constituent structure, this means that if *from Québec* is understood to be a modifier of *syrup*, then *syrup from Québec* must be a constituent. It must act as a unit. When we draw a tree eventually, there must be a single node of the tree that dominates the modifier, modifiee, and nothing else. Now we come to your task.

Part 5. Notice that the test sentences you created for the clefting test in parts 1–3 are not as ambiguous as the original sentence in (23). Specifically, the sentences in parts 2 and 3 must mean that the *stealing* was from Québec (it can't be just the barrel or just the syrup that are québécois), while the sentence in part 1 can mean either that the syrup or the barrel is from Québec, but not the stealing. Your task for this part is to explain why the test sentences are less ambiguous than the original sentence in (23). Start with the test sentences for part 1, consider what I said above, and explain why the test sentences only allow interpretations where *from Québec* modifies *syrup* or *barrel (of syrup)*. Then, explain why the test sentences for parts 2–3 only allow modification of *stole (a barrel of syrup)*. These last two are a bit more complicated, but consider the implications of the bold things in boxes above. Just write your explanation of why certain meanings are missing from the test sentences in (relatively succinct) prose, making reference to the principles outlined above.