CAS LX 422 ∼ GRS LX 722 Intermediate Syntax
Lecture 11

CP and embedding

1 Types of sentences

Clause types

Types of sentences

Sentences come in several types. We've mainly seen declarative clauses.

(1) Horton heard a Who.

But there are also questions (interrogative clauses), exclamatives, imperatives.

(2) Did Horton hear a Who?

(3) Who did Horton hear?

(4) What a forgetful elephant!

(5) Pass me the salt.

Declaratives and interrogatives

Our syntactic theory should allow us to distinguish between clause types.

The basic content of *Will will bake a cake* and *Will Will bake a cake?* is the same.

Two DPs (*Will*, nominative, and *a cake*, accusative), a modal (*will*), a transitive verb (*bake*) that assigns an Agent θ-role and a Theme θ-role. They are minimally different: one is an interrogative and one is a declarative. One asserts that something is true, one requests a response about whether it is true.

Clause type

Clause type

Given this motivation, we seem to need one more category of lexical items, the clause type category.

We'll call this category C, which traditionally stands for *complementizer*.

The hypothesis is that a declarative sentence has a declarative C in its structure while an interrogative sentence (a question) has an interrogative C.

Embedded clauses

Embedding clauses

The reason for calling this element a complementizer stems from viewing the problem from a different starting point.

It is possible to embed a sentence within another sentence:

(6) I heard [Lenny retired]

And when you embed a declarative, you generally have the option of using the word *that*.

(7) I heard that [Lenny retired]

So what is *that*?

What's that?

We can show that *that* "belongs" to the embedded sentence with constituency tests.

(8) I believe that Lenny retired.

(9) [That Lenny retired] I believe.

There is a demonstrative *that*, but that's not this *that*.

(10) * I heard this Lenny retired

So, *that* is its own kind of thing. It's an introducer of embedded clauses, a complementizer.

Complementizers

There are a couple of different kinds of complementizer. *That* is for embedding declarative sentences. *For* can be used to embed infinitive sentences.

(11) I understand **that** Alton dislikes unitaskers.

(12) I arranged **for** Alton to receive an egg cuber.

It's also possible to embed an interrogative sentence, as below. Here, *if* and *whether* serve as complementizers, introducing the embedded interrogatives.

(13) I wonder **if** Alton dislikes unitaskers.

(14) I wonder **whether** Alton dislikes unitaskers.

Selection

Just like the verb *dislikes* takes the DP *unitaskers* as its object, some verbs take *clauses* as their object. And some verbs specify what kind of clause they take. Some verbs select for declaratives, some for interrogatives. Some verbs can take either, some neither.

(15) I claimed that Alton dislikes unitaskers.

(16) * I claimed if Alton dislikes unitaskers.

(17) * I wondered that Alton dislikes unitaskers.

(18) I wondered if Alton dislikes unitaskers.

(19) I know that Alton dislikes unitaskers.

(20) I know if Alton dislikes unitaskers.

(21) * I washed that Alton dislikes unitaskers.

(22) * I washed if Alton dislikes unitaskers.

CP

Types of C

C

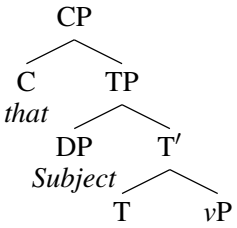
So, we have lexical items like *that* and *if*, which are complementizers (category: C), and have a value for clause type.

that [C, clause-type: decl, . . .]
if [C, clause-type: Q, . . .]

Where is it structurally? We know it forms a constituent with the clause it introduces. We know that verbs can select for different kinds of C. The natural conclusion is that it is a sister to TP, at the top of the tree, which projects.

CP

C is the head of CP.



Also provides a natural explanation of why in SOV languages, complementizers are generally on the right.

(23) Hanako -ga [Taroo -ga naita to] itta
Hanako NOM Taroo NOM cried that said
'Hanako said that Taro cried.'

that or not that

C specifies the clause type: *that* indicates a declarative (finite) clause. Why then are both of these good? *Claim* does not embed interrogatives (26). So *Jack fell* is declarative in (25).

(24) Jill claimed that Jack fell.

(25) Jill claimed Jack fell.

(26) * Jill claimed if Jack fell.

In French, Spanish, probably most other languages, you don't have the option to leave out C.

(27) J'ai dit qu' elle était malade
I've said that she was ill
'I said that she was ill'

(28) * J'ai dit elle était malade

∅

Where does that leave us?

- *Claim* takes declarative complements.
- *Jack fell* is declarative.
- Clause type is a feature of C.

- Thus: There is a declarative C. You just can't hear it.

English has two declarative complementizers. One is *that*, one is ∅. In most cases, either one works equally well.

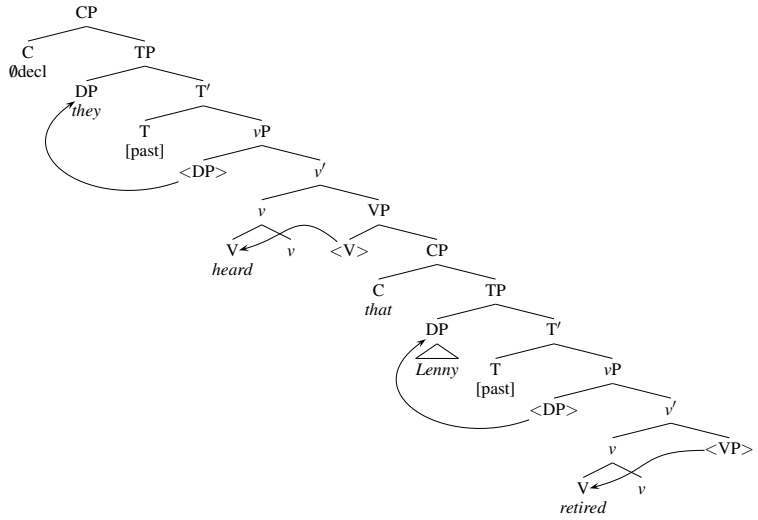
Jack fell is a declarative

Well, wait a second. *Jack fell*, just as its own sentence (not embedded) is also declarative. We can make a question out of it and everything (*Did Jack fall?*).

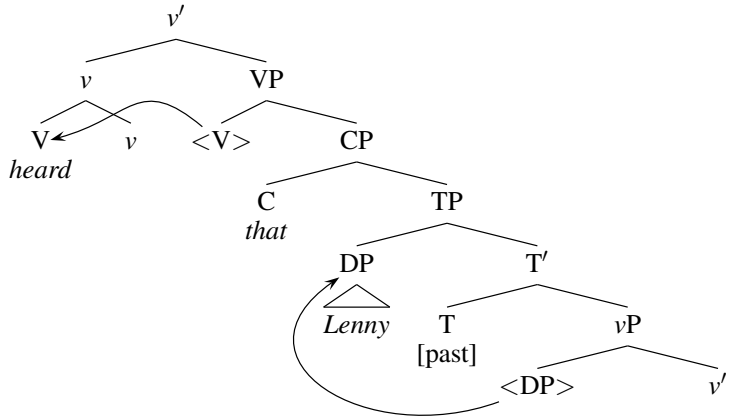
So, we'll suppose that since the function of C is to mark clause type, there's a C in simple sentences as well.

The C that heads the whole structure has somewhat special properties. Declarative C in that position in never pronounced. Interrogative C is not pronounced as a word, but makes its presence known by causing movement.

Finite declarative CP embedded within another



Finite declarative CP embedded within another: Zoomed in



Embedded infinitives

Raising verbs

Nonfinite clauses

Some verbs embed finite declaratives, as we have seen: *I heard (that) Jack fell*.

There are other verbs that embed *nonfinite* clauses.

(29) She expects for me to join the circus.

(30) She expects me to join the circus.

(31) She expects to join the circus.

(32) She expects to like clowns.

The embedded clause is nonfinite, and when the subject shows up, it takes an accusative form.

Preamble: Seeming

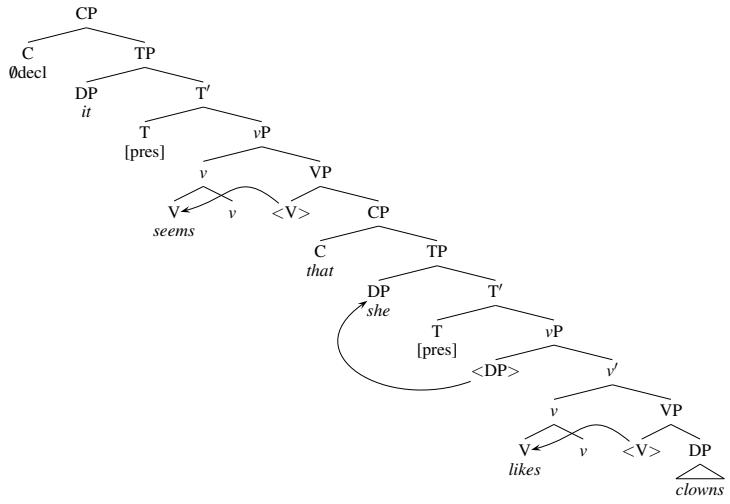
(33) It seems that she likes clowns.

(34) It rained.

Consider (33). There's some kind of proposition (*that she likes clowns*). What is *it*?

Same as in (34). Not a participant at all, there because we need a subject. Weird in both cases to point at someone/something while saying the sentence. And (32) and (33) mean very nearly the same thing. Something like: perceivable evidence leads us to conclude that the proposition is true.

It seems that…



Seems

(32) She seems to like clowns.

(33) It seems that she likes clowns.

The verb in (32) has the same semantics as that in (33), but *she* is now where *it* was. Yet, *she* is still the Experiencer of *like*.

Moreover, assuming idioms like *cat have your tongue* involve a special semantics assigned to a preformed subtree, *the cat* in both cases below starts out in such a subtree.

(35) It seems that the cat has your tongue.

(36) The cat seems to have your tongue.

Subject raising

(37) [The cat] seems [<the cat> to <the cat> have your tongue]

(38) She seems [<she> to <she> like clowns]

The DP that winds up in the main clause subject position starts off in the underlined phrase (as indicated by the idiom diagnostic). Presuming T still has a [*u*D*] in the lower clause, it moves to the lower subject position, but then moves *further* to the main clause subject position. Where it gets nominative case.

This would indicate that it does *not* get nominative case in the lower clause subject. Meaning that the infinitive T does not have a case to assign, it has no [*u*case:nom] (or [*u*case:*anything*]) feature.

Subject raising: out of TP

Suppose: A CP cannot have DPs within it with unvalued case features.

- Subject raising out of a CP is not possible; the DP would already have case, couldn't check the higher T's [*u*case:nom].
- Subject raising examples must *not* have a CP around the lower clause. The complement of raising-*seems* must be a TP.
- If the embedded clause is an infinitive (where T does not assign case), then the C must *itself* assign case to the embedded subject.

(39) She expects [$_{\mathrm{CP}}$ for me to leave].

(40) * She seems [$_{\mathrm{CP}}$ that likes clowns].

(41) * She seems [$_{\mathrm{CP}}$ for to like clowns].

(42) She seems [$_{\mathrm{TP}}$ to like clowns].

What this means for *seems*

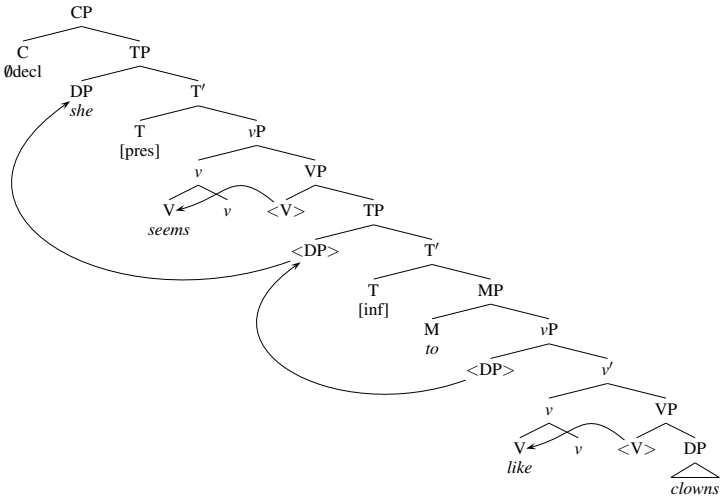
We have examples now of the verb *seems* taking two different sorts of complements. In (33), a finite CP, and in (32), just a TP.

(32) She seems [$_{\mathrm{TP}}$ to like clowns].

(33) It seems [$_{\mathrm{CP}}$ that she likes clowns].

This leaves a puzzle about what *seems* actually selects for. Does it have a [*u*T*]? A [*u*C*]? Is there something in common between a finite CP and an infinitive TP that is *not* shared by an infinitive CP? This seems like a hard question. Let's set it aside and for now just stipulate that *seems* has these two variants. Maybe later we can come back to try to puzzle it out.

She seems to…



ECM verbs

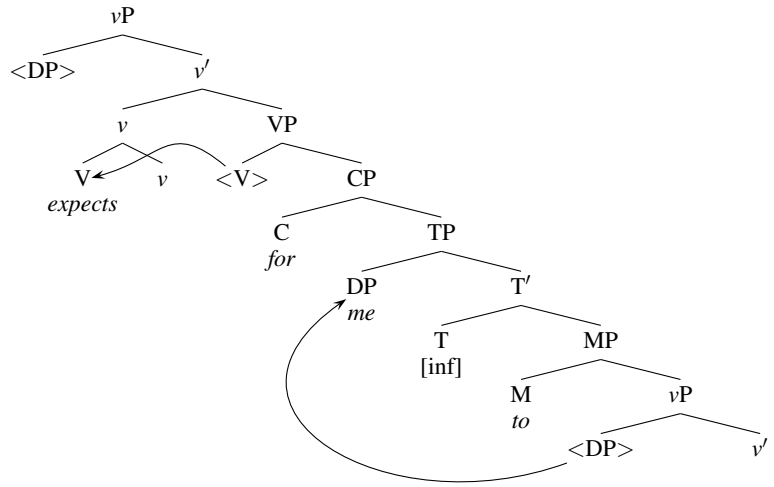
Embedded accusative subjects

Let's return to these examples, where the embedded verb is in the infinitive form, and the embedded subject is in the accusative.

(43) She expects for me to leave.

We take *for* to be a C, and have reason to believe infinitive T does not assign case. We also assume that the embedded subject must have case by the time the CP is finished. So, the accusative case must be coming from *for*.

She wants for me to leave: Zoomed in



Embedded accusative subjects without C

An even less clumsy-sounding example is this one, also where the embedded verb is in the infinitive form, and the embedded subject is in the accusative.

(44) She expects me to leave.

In this case, there is no evident C. We have two avenues here. Either in this case, the embedded clause is a TP (without a C at all), or there is a silent C analog to *for*. This is a difficult call to make.

Embedded accusative subjects without C: passivizing

One observation is that if you passivize the main clause verb, it works in the *for*-less case but not in the *for*-ful one.

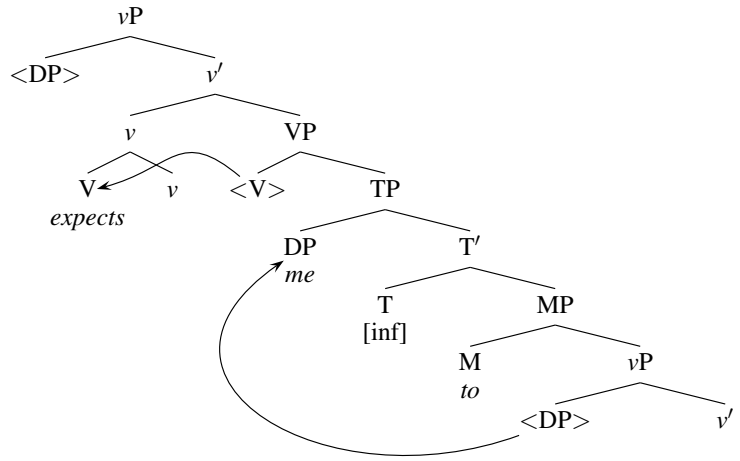
(45) She expected me to leave.

(46) I was expected to leave.

(47) * I was expected for to leave.

Maybe this is enough to suggest (a) that the complementizer that makes the third one bad has no hidden analog in the second one, (b) that the case on the embedded subject is coming from the main clause verb. In which case, we go with the embedded TP version when there is no evident C.

She expects me to leave: Zoomed in



What this means for *expects*

(48) She expected (that) I would leave.

(49) She expected me to leave.

(50) She expected me.

So, like with *seems*, there seems to be some flexibility here. We see that *expect* can take a finite CP, in which case it does not assign accusative case. It can take a nonfinite TP, in which case is *does* assign accusative case (which can be suppressed in the passive). In the third example it looks like it takes a DP, but this may be an illusion; it likely contains a hidden "to arrive" or something.

(Also mysterious still: *That I would leave seemed to be expected*. CPs have some ability to become subjects, so might still interact somehow with case.)

Control verbs and PRO

***Expecting to* and θ-roles**

But wait, there's more…

(51) She expected to leave.

Who would be leaving? *She* would, except that *she* is also the one expecting something.

However: You are not allowed to assign two different θ-roles to the same DP. First: the θ-role is by hypothesis based on where something is first Merged. And even if we allowed for movement into a θ-position, this would predict that *She admires* could mean 'She admires herself' and it doesn't.

Secret Agent PRO

(52) She expected to leave.

So we have something of a problem here. We need an Agent DP in the *v*P for *leave*, and an Experiencer DP in the *v*P for *expect*. But there appears to be only one DP around (*she*).

We need two DPs. We can only see one. We can... only... see...

There must be a DP we can't see. It's kind of like a pronoun, we're going to call it **PRO**. It's referring to the same person as *she* here, and is the Agent of *leave*.

CP protecting PRO

The verb *try* can fit in the same frame *expect* with respect to sentences with PRO. *She* is Agent of *try*, can't also be Agent of *leave*, thus: PRO. Only *expect* can also take just a TP, assign accusative case. Difference between Agent and Experiencer? Maybe. In any event, different verbs, different options.

(53) She expected PRO to leave.

(54) She tried PRO to leave.

(55) She expected me to leave.

(56) * She tried me to leave.

If we analyze both PRO sentences the same way, then PRO is not getting case from *try* or *expect*. And it's not getting case from the embedded nonfinite T. There's got to be also a (hidden) complementizer assigning case to PRO.

Control

(57) She expected PRO to leave.

(58) She expected herself to leave.

(59) She tried PRO to leave.

(60) * She tried herself to leave.

(61) * She tried her to leave.

The PRO Agent of *leave* must be interpreted as being the same person as the Agent/Experiencer of *expect*/*try*. So, it's a bit like *herself*. The first two mean nearly the same thing (though with a subtle difference in correlated agency), but it doesn't work for *try*.

This obligatory coreference goes by the name "control." *She* controls PRO. Sentences containing PRO are often called "control clauses."

PRO and case

PRO is a DP and needs case, but the fact that *try* allows for PRO, which we take to need a C, but doesn't allow an accusative subject anyway, suggests that the case PRO gets is not accusative.

The standard way this is analyzed is this:

- PRO is special. It can only "show up" if it gets "null case."
- Null case is special. It is only allowed on PRO.
- Control clauses are special. They are introduced by a null C that has a [*u*case:null] feature, which can check the [*u*case:] feature on PRO.

Making this work technically

Verb types can include:

- *wonder*, [*u*clause-type:Q*]
- *think* / $seem_1$, [*u*clause-type:Decl*]
- *try* / $expect_1$, [*u*clause-type:Ctrl*]
- $know_1$, [*u*C*]
- $expect_2$ / $know_2$, [*u*inf*] (able to assign acc)
- $seem_2$, [*u*inf*]

Complementizer types can include:

- C_{decl}, [C, clause-type:Decl]
- C_Q, [C, clause-type:Q]
- C_{null}, [C, clause-type:Ctrl, *u*case:null]

A DP other than PRO with [~~*ucase*~~:null] will crash. A CP containing unvalued case features will crash.

Idioms break near PRO

(62) [The cat] seems [<the cat> to <the cat> have your tongue]

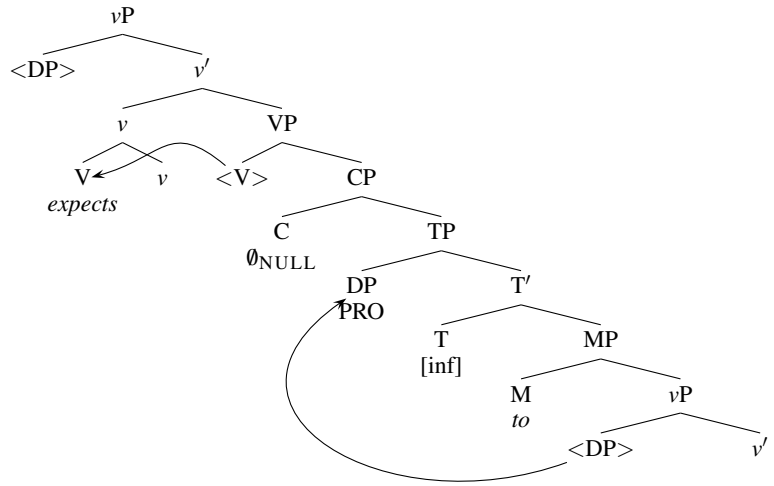
(63) I expected [[the cat] to <the cat> have your tongue]

(64) [The cat] tried [PRO to <PRO> have your tongue]

(65) [The cat] expected [PRO to <PRO> have your tongue]

As one might expect, the idiom is not "PRO have your tongue."

She expects to leave: Zoomed in



Object vs. subject control

(66) She persuaded me to stay.

(67) She promised me to leave.

If you work through the θ-roles in the *persuaded* sentence, we have an Agent for *stay*, interpreted as "me," and three for *persuade*: Agent (persuader, *she*), the Theme (persuadee, *me*), the Proposition (the thing the persuader persuades the persuadee of, *me to stay* more or less). And *me* cannot be both an Agent of *stay* and a Theme of *persuade*. So we need a PRO. And that PRO is coreferential with the *object* of *persuade*, not the subject. Unlike with *promise* which is the same but controlled by the subject.

(68) She persuaded me$_i$ [PRO$_i$ to stay].

(69) She$_i$ promised me [PRO$_i$ to leave].