## CAS LX 422 / GRS LX 722 Intermediate Syntax

Phases, relative clauses, and LF (ch. IO)

## 19

## A word about interpretation

Let's think for a moment about what a wh-question means:

Who did Pat meet?
$\left[\mathrm{CP}[\mathrm{DP} \text { who }]_{\mathrm{i}} \mathrm{T}_{\mathrm{k}}+\mathrm{C}\left[\right.\right.$ [TP Pat meet $\left.\left.t_{\mathrm{k}}\right]\right]$

Something like (a 'logical form'):
Tell me (a person) $x$ such that Pat met $x$ is true.

## Pronouncing \& interpreting

There are two things we need to do with the lexical items we assemble on the workbench:

- Pronounce the sentence

Interpret the sentence
We've mainly been concentrating on the pronunciation part (getting the words into the order we hear them), but the structure is also assumed to be the basis for interpreting the sentence as well.

## Our model of grammar

Here is the little picture of our model of grammar. The structure we end up with is used both to express the logical relations between participants and to pronounce the structure.
(And of course it has to be that way, since how a sentence sounds is tied to what it means).


## Wh-movement and interpretation

- Who bought what?
- Tell me a (person) $x$ and tell me a (thing) $y$ such that $x$ bought $y$ is true.
Who gave what to whom?
- Tell me a (person) $x$ and tell me a (thing) $y$ and tell me a (person) z
such that $x$ gave $y$ to $z$ is true.

[^0]
## The wh-typolody

- English: One wh-word moves to the front.
- What did Bill give to whom?

Japanese: No wh-words move to the front.

- Taroo-ga dare-ni nani-o ageta no?

T-nom who-to what-acc gave Q
'What did Taroo give to whom?'
Bulgarian: All wh-words move to the front.

- Kakvo na kogo Ivan dade?
what to whom Ivan gave
'What did Ivan give to whom?'
French: One wh-word or no wh-words move to the front.

| Qui as-tu vu? | Tu as vu qui? |
| :--- | :--- |
| Who have-you seen | You have seen who |
| 'Who did you see?' | 'Who did you see?' |

## Phases aqain

Remember that what's supposed to be true of phases is when they are "committed," we have locked in the pronunciation and interpretation.
But what if we lock in the pronunciation first, move a little bit more, and then lock in the interpretation?

```
[CP what }\mp@subsup{\textrm{T}}{\textrm{k}}{}+C\mathrm{ [TP Pat t g give t to whom ]]?
Lock in pronunciation
```



```
Lock in interpretation
```

This will sound like: What did Pat give to whom?

## Pros, cons

If we imagine that there can be this type of "covert movement" we gain a strong benefit:

- All languages have basically the same structure for the purposes of interpretation. Even if they seem to differ in terms of what visibly moves.
But it raises a number of issues as well:
- We must assume that once you covertly move something, you've left the phonological features behind-any further movement will also have to be covert.
- We must assume that all wh-words accumulate in SpecCP (some covertly) but without losing the explanation of wh-island violations (there is only one SpecCP).
- Covert movement seems not to obey islands: Strong features can't see inside committed phases, but others seem to be able to. Non-strong features won't affect the pronunciation, though-it's ok when the pronunciation is locked.


## The wh-typology

Yet in all of these languages, the meaning of What did Bill give to whom? is the same...

Tell me a (thing) $x$ and tell me a (person) $y$ such that Bill gave $x$ to $y$.
So, if the 'tell me an $x$...such that. .. $x$...' meaning arises from wh-movement (and, in fact, we can see the wh-movement in Bulgarian), it stands to reason that even in English and Japanese there is whmovement for each wh-word-we just can't always hear it.

## Wh-phrases binding pronouns

There is an interesting property of the kind of operator-variable formation that we can see in whmovement.

- Who likes his roommate?

Pick the $x$ such that $x$ likes $x$ 's roommate.
Who ${ }_{i}\left[\right.$ TP $t_{\mathrm{i}}$ likes his ${ }_{\mathrm{i}}$ roommate]
Notice that it is possible to have a pronoun bound by a wh-word.
And it is binding, like the binding we spoke of wrt Binding Theory. It's assignment of reference, both to the trace and to his, matching the reference of who.

The difference lies in the fact that the wh-phrase had to cross over the coindexed pronoun on its way to SpecCP.This appears to be impossible, and we can state this as follows:

Weak Crossover (WCO): A coindexed pronoun cannot intervene between an operator and its variable.


## WCO

But now consider this:

- Who does his roommate like?

Can this mean the same thing as Whose roommate likes him?
*Who ${ }_{\mathrm{i}}$ does his $\mathrm{s}_{\mathrm{i}}$ roommate like $t_{\mathrm{i}}$ ?
How is this different from
Who $t_{i}$ likes his ${ }_{i}$ roommate?
$[\text { Whose roommate] }]_{i} t_{\mathrm{i}}$ likes him ${ }_{i}$ ?

## WCO

We can also see this effect with wh-in-situ:


Which girl told his parents to visit which boy?
Which girl told whose parents to visit him?

## Quantifiers

We interpret Bill saw everyone as

- For every person $x$, Bill saw $x$.

This is the meaning. This is the logical form of the sentence Bill saw everyone. In the notation of formal logic, this is written as $\forall x$. Bill saw $x$
'For all $x$ ( $x$ a person), Bill saw $x$.'

## Quantifiers

Every boy hates his roommate.
Notice that each boy hates a different roommate, the roommates are specific to each boy.
For every boy $x, x$ hates $x$ 's roommate.
This means that every boy doesn't just mean the group of boys; rather it goes through the set of boys and says something about each of them individually.

## Quantifiers

These phrases which don't refer to specific people/things in the world but rather seem to do things to sets of people/things (like state generalizations) are quantifiers. Examples:

- most students
- twelve angry men
- fewer than half of the members
- some custodian
- nobody in their right mind


## QP

What is the category of a quantifier like most students?

Well, it goes basically in all the same
 places a DP goes. Like which student or what or who.
So, like what we said for wh-phrases, quantifier phrases are really DPs with an extra property (they're quantificational). Sometimes people write QP, but they mean 'a quantificational DP'.

## Restrictions

To reiterate, quantifiers are used to say something about individuals in a set.

- Most students like syntax.

The set (sometimes, restriction) is the set of students.
This says that, if you check all of the students individually to see if each likes syntax, you'll find that most (more than half) of the students you checked do.

- For each $x$ in students, does $x$ like syntax? Did we answer "yes" for most of the ones we checked?


## Quantifiers

To write the logical form (meaning) of a sentence with one of these, you put the quantifier first, and replace where it came from with a variable:
Most students eat at Taco Bell.
For most students $x, x$ eats at Taco Bell
No administrators eat at Taco Bell.
For no administrator $x, x$ eats at Taco Bell
Mary likes every flavor of ice cream.
For every flavor of ice cream $x$, Mary likes $x$

## Binding

A quantifier is said to bind its variable. That is, the reference of the variable is assigned by the quantifier.

Bill read every book.
For every book $x$, Bill read $x$

Is this true? Well, let's go through the books. Moby Dick. Did Bill read Moby Dick? Yes. Ok, War and Peace. Did Bill read War and Peace? Yes. Ok,

## Scope

A student read every book.
When is this true?
Mary, it turns out, has read all of the books.
Nobody has read everything, but Mary read half of the books and Bill read the other half. Every book was read by a student.

There are two meanings here, the sentence is ambiguous between two logical forms.

## Scope

A student read every book
There is a student $x$ such that
for every book $y, x$ read $y$
or
For every book $y$, there is a student $x$ such that $x$ read $y$
It matters which quantifier comes first in the logical form.

## Scope

This is perfectly logical.A quantifier takes a set of individuals and checks to see if something is true of the individual members of the set.

A student read every book. (Namely, Mary)
In the set of students, we find that it is true that for at least one student $x: \underline{x}$ read every book.
In the set of students, we find that it is true that for at least one student $x$ : In the set of books, we find that it is true that for each book $y, x$ read $y$.
There is a student $x$ such that for every book $y, x$ read $y$.
$\exists x \in$ students : $\forall y \in$ books: $x$ read $y$.

## Scope

A student read every book. (The books were all covered, though not necessarily by one student)

In the set of books, we find that it is true that for each book $x$ : a student read $x$.
In the set of books, we find that it is true that for each book $x$ : In the set of students, we find that it is true that for at least one student $y, y$ read $x$.
For every book $x$, there is a student $y$ such that $y$ read $x$.
$\exists x \in$ books: $\forall y \in$ students: $y$ read $x$.

## LF

We think about this kind of ambiguity in much the same way we think about
Mary heard a dog bark in the house.

- (either Mary was in the house or the dog was)

This (above) is a syntactic ambiguity, depending on where the PP in the house is attached.

If there are two different interpretations, there are two different structures. Two different LFs.

## QR

Sue read every book.
For every book $x$, Sue read $x$.

Covert movement again: the quantifier moves to a position above the sentence, so there is then a direct mapping between the structure and the logical form. But only after the pronunciation has been fixed.

[every book] $]_{\mathrm{i}}$ Tт Sue read $t_{\mathrm{i}}$ ].

## QR

Sue read every book.
For every book $x$, Sue read $x$.
[every book] $]_{\mathrm{i}}$ TP Sue read $t_{\mathrm{i}}$ ].


As with wh-movement, the trace is the variable at logical form-moving quantifiers is a way to establish a quantifier-variable structure.

This movement is called Quantifier Raising (QR), and it happens to every quantifier before LF.

## Quantifiers and binding

Every girl aced her exams.
[Every girl] [ $t_{\mathrm{i}}$ aced her $\mathrm{r}_{\mathrm{i}}$ exams]
For every girl $x, x$ aced $x$ 's exams

Not only the trace of QR , but also pronouns, can be bound by the quantifier, their referent determined by the quantifier.

## Quantifiers and binding

[Every girl] $]_{i}\left[t_{i}\right.$ aced her ${ }_{i}$ exams]
Binding (assigning reference) is subject to ccommand. A quantifier can only assign reference to a variable (its trace and possibly other pronouns) which it c-commands.
Her brother said that every girl aced her exams.
The things which a quantifier c-commands are said to be in its scope.

- Quantifiers can only bind variables in their scope.


## WO

Now, let's look at weak crossover again.

- Every girl likes her roommate.
- For every girl $x, x$ likes $x$ 's roommate.
- Her roommate likes every girl.
- For every girl $x, x$ 's roommate likes $x$.

Why cant the second sentence have this meaning?

## ECO

[Every girl] ${ }_{\mathrm{i}} \mathrm{TTP}_{\mathrm{T}} \mathrm{t}_{\mathrm{i}}$ likes her $\mathrm{r}_{\mathrm{i}}$ roommate].
For every girl $x, x$ likes $x$ 's roommate.

[Every girl] ${ }_{\mathrm{i}}{ }_{\text {ToP }}$ her $\mathrm{r}_{\mathrm{i}}$ roommate likes $t_{\mathrm{i}}$ ].
For every girl $x, x$ 's roommate likes $x$.

Answer:WCO again. But WCO is about moving a quantifier over a variable -so if WCO rules out this meaning, there must have been movement. There must have been QR.A movement we couldn't see.

## UP ellipsis

Mary bought a record and Bill bought a tape. $\neq$ Mary bought a record and Bill did too.
VP ellipsis is allowed when a preceding VP is identical.

To interpret this, you need to use the content of the preceding VP.

Mary bought a record and Bill did (buy a record) too.

## UP ellipsis

We will consider the process ofVP ellipsis to be one of deletion under identity．
Underlyingly：
－ed［⿰氵㔾 Mary sleep］and－ed［rv Bill sleep］too．
Before deletion：
Mary－ed［ ${ }_{\mathrm{pp}} t$ sleep］and Bill－ed［ ${ }_{\mathrm{vp}} t$ sleep］too
Pronunciation：
Mary－ed［rp $t$ sleep］and Bill－ed［vetsleep］too Mary slept and Bill did too

## UP ellipsis

So，as long as two VPs in sequence look identical（where traces of movement look identical to one another－they sound the same），we are allowed to pronounce the second one very quietly．

Like an extreme case of Mary bought a record and

Bill boughta record too．

## UP ellipsis

Note that identity is actually fairly abstract．
John slept and Mary will too．
John slept and Mary will sleep too．

Before deletion：
John－ed［ ${ }_{\mathrm{vp}} t$ sleep］and Mary will［ ${ }_{\mathrm{vp}} t$ sleep］ too

The inflectional features of $v$ don＇t matter for identity；the verb doesn＇t inherently have a tense suffix．

## UP ellipsis with relative clauses

Now，consider a DP with a relative clause： the record［ $O p_{i}$ that Mary bought $t_{i}$ ］．

Bill ：

Bill likes the record that Mary bought and Sue does too．

Bill likes the record that Mary bought and Sue does（like the record that Mary bought）too．

## ACD

Bill likes every book Mary does．
Bill［ıp likes every book $O p_{\mathrm{i}}$ Mary［гp likes $t_{\mathrm{i}}$ ］］．
vP：likes［every book Op Mary likes $t$ ］
vP：likes $t$
Those aren＇t the same．VP ellipsis shouldn＇t work， but yet it does．

The deleted VP is contained in the antecedent VP （antecedent－contained deletion）

## QR and ACD

But now let＇s consider what QR would do．
Every book that Mary likes is a quantifier．
Quantifiers have to move up past the subject by LF．
Bill likes every book Mary does．
Pronunciation（before covert movement）：
Bill［ ${ }_{\text {vp }}$ likes［every book $O p_{\mathrm{j}}$ Mary［⿰⿰\zh9p likes $t_{\mathrm{j}}$ ］］］．
LF：
［every book $O p_{\mathrm{j}}$ Mary［ ${ }_{\mathrm{vp}}$ likes $t_{\mathrm{j}}$ ］］ $\mathrm{i}_{\mathrm{i}}$ Bill［${ }_{\text {rp }}$ likes $t_{\mathrm{i}}$ ］．
But now the VPs are identical．So QR allows us to explain ACD in a natural way．

## Where do quantifiers qo?

- Every student left.
[Every student] ${ }_{\mathrm{i}} \mathrm{Trp} \mathrm{t}_{\mathrm{i}}$ left ]
We need a variable in subject position, so QR must be moving the quantifier out of TP, to somewhere higher then TP.
Believe me that it is also moving somewhere lower than CP .


## Adjunction to TP

In order to accommodate this, we need to formulate a new position to which quantifiers move.

This position is going to be adjoined to TP.


## Adjunction to TP

One difference between QR (adjunction to TP) and movement to SpecTP is in the motivations.

Moving to SpecTP or moving to SpecCP is motivated by some need of T (EPP:T needs DP in its specifier) or C ([Q] C needs a [+WH] in its specifier).

Moving a quantifier $(Q R)$ is required because the quantifier needs to get out of the TP (for
 interpretation). TP itself has no need for quantifiers.

## Adjunction to TP

So, we could say that moving to Spec is something that happens if the moving thing is pulled ( T is pulling up a subject to satisfy its own needs, not the needs of the moving subject) or pushed (quantifiers move to satisfy their own needs, not the needs of the T).

An XP that is pulled up goes into Spec.


An XP that is pushed up adjoins.

## Relative clauses

Another place where we see wh-movement, besides in explicit questions (either in the main clause or embedded) is in relative clauses.

- The book which I read
- The woman who(m) I met

These consist of a head noun (book, woman) and then what appears to be a wh-question that further specifies the referent of the head noun.

## Relative clauses

Relative clauses serve to modify the head noun.
Kind of like adjectives, or PP modifiers.

- The unhappy students.
- The students from Vancouver.
- The students who solved the problem.

So where would you put them?

## Relative clauses



The structure of a relative clause:

- A CP [clause-type:Rel, uwh*] is adjoined to the NP, like an adjective, or a PP modifier.
- The meaning is essentially "the man with the property of being the answer to 'Who did I meet?' "
- We'll see in a moment that C [Rel] can be pronounced as either $\varnothing$ or as that.


## Differences between questions and relative clauses

The "question" inside a relative clause has a couple of odd properties, not shared with regular main clause or embedded questions.

- *The problem what I solved.
- The problem which I solved.
- The problem which I will solve.
- The problem I solved.
- The problem that I solved.


## Which/that/Ø

In addition to being able to say

- The book which Mary read

We can also say

- The book that Mary read
and
- The book Mary read

And they all mean the same thing. So we expect that they would all have basically the same structure (they all have a question adjoined in the $n \mathrm{P}$ )-so where is the wh-word in the last two?

## Op

The secret to these last two kinds of relative clauses is $\mathbf{O p}$, the silent wh-word.

That is, the book which Mary read and the book Mary read are really exactly the same except that in one case you pronounce the wh-word, and in the other, you don't.
the book [cp which ${ }_{i}$ Mary read $t_{\mathrm{i}}$ ]
the book [cp $O p_{\mathrm{i}}$ Mary read $t_{\mathrm{i}}$ ]

## Op

It is also possible to pronounce that with $O p$, giving us:
the book [CP $O p_{\mathrm{i}}$ that [TP Mary read $t_{\mathrm{i}}$ ]]

Why can't we pronounce that with which?
*the book $^{[C P}$ which $_{i}$ that [TP Mary read $t_{i}$ ]]

## Doubly-Filled COMP filter

The Doubly-Filled COMP filter is the traditional "explanation":

Doubly-Filled COMP filter:
*[cp wh-word if/that/for...]
You can't pronounce both a wh-word and C at the same time.Thus:
the book [cp $O p_{\mathrm{i}}\left[\right.$ [тP Mary read $t_{\mathrm{i}}$ ]]
the book [cp $O p_{i}$ that [Tp Mary read $t_{\mathrm{i}}$ ]]
the book [cp which ${ }_{i}$ [Tp Mary read $t_{\mathrm{i}}$ ]]
*the book [cp which $h_{\mathrm{i}}$ that [Tp Mary read $t_{\mathrm{i}}$ ]]

## Op

Skeptical of $O p$ ? Is there really wh-movement of Op, a silent wh-phrase?
I read the book [cp which ${ }_{\mathrm{i}}{ }_{\text {TTP }}$ Mary said [cp that [тp Bill bought $t_{\mathrm{i}}$ ] ]]].
*I read the book [cp which $_{i}[$ [IP Mary wonders [CP who [TP bought $t_{\mathrm{i}}$ ]]]].

I read the book [cp $O p_{i}$ (that) [TTP Mary said [CP that [TP Bill bought $t_{\mathrm{i}}$ ]]]].
*I read the book [CP $O p_{i}$ (that) [TTP Mary wonders [cp who [Tp bought $t_{\mathrm{i}}$ ] $]$ ]].

## Op

If we have a silent wh-word, why can't we ask questions with it?
-Where ${ }_{\mathrm{i}}$ did Mary buy this book $t_{\mathrm{i}}$ ?
The place [ $O p_{i}$ Mary bought this book $t_{i}$ ]

- When $n_{i}$ did Mary buy this book $t_{\mathrm{i}}$ ?
- The time [Opi Mary bought this book $t_{\mathrm{i}}$ ]
- Why ${ }_{\mathrm{i}}$ did Mary buy this book $t_{\mathrm{i}}$ ?

The reason [Op $p_{i}$ Mary bought this book $t_{i}$ ]

- $\mathrm{How}_{\mathrm{i}}$ did Mary buy this book $t_{\mathrm{i}}$ ?
- The way [ $O p_{\mathrm{i}}$ Mary bought this book $t_{\mathrm{i}}$ ]
- $O p_{\mathrm{i}}$ did Mary buy this book $t_{\mathrm{i}}$ ?

See why?

## Using the microscope

## Op

Recoverability condition:The content of a null category must be recoverable.
the place [ $O p_{i}$ (that) Mary bought that book $t_{i}$ ]
the day [ $O p_{\mathrm{i}}$ (that) Mary bought that book $t_{\mathrm{i}}$ ]
the reason [ $O p_{i}$ (that) Mary bought that book $t_{i}$ ]
the way [ $O p_{i}$ (that) Mary bought that book $t_{i}$ ]
In each case, we can tell what the wh-phrase is by looking at the head noun.

## Using the microscope

As we looked closer, we had reason to think that the "VP" was more complicated, involving a "little $v$ ".


Pat there.

## Using the microscope

But for many purposes, we don't need to focus on the minute details of the VP. In those situations, you'll find that people still write VPs like this, with the understanding that the $v P$ is
We started off (sort of) with a relatively simple structure, with a CP, a TP, a VP.


## Using the microscope

What we're going to do now is put "TP" under the microscope, where we'll find it is more complicated. For most purposes, we can continue to think about it as "TP", but this is a preview of where syntax can go from here.


## Let's go back to French...

Jean mange souvent des pommes. Jean eats often of.the apples 'Jean often eat apples.'
*Jean souvent mange des pommes.

Recall that this was one of our early examples showing verbmovement to T. French and English differ in whether they move finite main verbs to $T$.

- Note: microscope on VP was removed, but we still suppose that there is a vP there...

des pommes


## French negation

This happens with respect to negation too-the finite verb move to the left of negative pas...

- Jean ne mange pas des pommes. Jean ne mange pas des pommes.
Jean NE eat NEG of.the apples 'J doesn't eat apples.'
*Jean pas ne mange des pommes.

But fortunately or unfortunately, things are more complex that this...


## French and a problem...

- Finite verbs (main verbs and auxiliaries) in French precede adverbs and precede negative pas-they must move to $\mathbf{T}$.
- Now let's look at infinitives, first the auxiliaries...
- N'être pas invité, c'est triste

NE be ${ }_{\text {inf }}$ NEG invited, it's sad
'Not to be invited is sad.'

- Ne pas être invité, c'est triste. NE NEG be ${ }_{\text {inf }}$ invited, it's sad ' $N$ ot to be invited is sad.'
- Nonfinite auxiliaries can either move past pas (to T) or not, it appears to be optional.


## French and a problem...

- +Fin aux: V Adv, V neg : Moves to T.
- +Fin verb: V Adv, V neg : Moves to T.
- -Fin aux: (V) Adv (V), (V) neg (V): (Opt.) Moves to T .
- Nonfinite main verbs...and adverbs...
- Souvent paraître triste pendant son voyage de noce, c'est rare. Often appear ${ }_{\text {inf }}$ sad during one's honeymoon, it's rare 'To often look sad during one's honeymoon is rare.'
- Paraître souvent triste pendant son voyage de noce, c'est rare. Appear ${ }_{\text {inf }}$ often sad during one's honeymoon, it's rare 'To often look sad during one's honeymoon is rare.'
- Nonfinite main verbs can either move past adverbs or not; optional like with auxiliaries.


## French and a problem

- +Fin aux: V Adv, V neg : Moves to T.
- +Fin verb: VAdv, V neg : Moves to T.
- -Fin aux: (V) Adv (V), (V) neg (V): (Opt.) Moves to T.
- -Fin verb: (V) Adv (V), ...
- Nonfinite main verbs... and negation...
- Ne pas sembler heureux est une condition pour écrire des romans. NE NEG seem inf happy is a prerequisite for write $_{\text {inf }}$ of.the novels 'Not to seem happy is a prerequisite for writing novels.'
- *Ne sembler pas heureux est une condition pour écrire des romans NE seem ${ }_{\text {inf }}$ NEG happy is a prerequisite for write ${ }_{\text {inf }}$ of.the novels 'Not to seem happy is a prerequisite for writing novels.'


## French and a problem...

- +Fin aux/verb:

V Adv, V neg
Moves to T.

- -Fin aux:
$(\mathrm{V}) \mathrm{Adv}(\mathrm{V}),(\mathrm{V})$ neg (V)
(Opt.) Moves to T.
- -Fin verb:
(V) Adv (V), neg V

Moves over adv not neg??

So we have the whole patternand we didn't predict it. Where could the verb be moving? A head can't adjoin to an XP, it has to be moving to a head.


## French and a problem...

- +Fin aux/verb:
$\checkmark$ Adv, V neg
Moves to T.
- -Fin aux:
(V) Adv (V), (V) neg (V)
(Opt.) Moves to T.
- -Fin verb:
(V) Adv (V), neg $V$

Moves over adv not neg??

We need there to be a head here in the tree for the verb to move to...

- That means we need to insert a whole phrase (heads always head something)...




## What is FP?

- Vous avez pris les pommes. you have taken the apples 3MSG 3FPL
'You took the apples.'

Vous les avez prises. you them have taken

3PL 3FPL
'You took them (3fpl).'

Quelles pommes avez-vous prises?
Which apples have you taken 3FPL
Which apples did you take?

- Vous avez pris la pomme you have taken the apple 3MSG 3FSG
'You took the apple.'
- Vous l'avez prise. you it have taken 3SG 3FSG
'You took it (3fsg).'
- Quelle pomme avez-vous prise? Which apple have you taken $\begin{array}{rr}\text { Which apple } \\ \text { 3FSG } & \text { have you taken } \\ \text { 3FSG }\end{array}$ 'Which apple did you take?'


## A new FP

- It appears that when an object has to cross FP, the verb shows agreement with it.
- Why?
- This only happens when the object has to move. When the object must not be trapped in its original position.This sounds like...



## A new FP

Well, it sounds like phases are involved.

Suppose FP is a phase.
If we need to move the object to SpecCP (e.g. what), we darn well better get it to the edge of the phase before the phase is finished.

- There are some technical issues There are some technical issues
here, that we're going to ignore for here, that we're going to ignore for
now. How the subject gets out is one There are things we can say one. There are things we can say. or example, we might suppose tha the "edge of the FP phase is larger, and includes SpecvP, but not VP anything inside. That is, VP gets frozen when the FP phase ends.



## A new FP

o, suppose that FP has an uninterpretable feature (that attracts the object) that can be strong, optionally.
It's strong if it has to be, if the object will get trapped otherwise

- It's weak if it doesn't have to be strong (the system is lazy, strong features are work).

If it's strong, the object moves into SpecFP and the features are checked.

When the verb moves up to $F$
and on to $T$, if the feature of $F$
and on to $T$, if the feature of
was strong, the agreement
features are realized in the
verbal morphology.


## A new FP

What might that feature be that attracts the object and not the subject?


## AgrOP

## AgrOP, Object agreement

 phrase.The verb moves up to $T$, stopping at AgrO along the way.

If the object has to get out of VP, then AgrO will have a strong [acc] feature, forcing the object to move into its specifier first (to get out of the FP phase).

If the [acc] feature was strong when it was checked, the verb shows agreement.


## ECM v. BT

## - Mary wants her to leave.

- Bill considers himself to be a genius.

Before we said that the binding domain for anaphors and pronouns was a clause (say,TP).

Her and himself above act like they are in the higher clause with the main clause subject.

- Our options are basically to
- complicate the definition of binding domain in Binding Theory
- suppose the object has really moved out of the embedded clause.


## ECM

AgrOP can solve a serious problem we had in English too...

- Here's the current way we analyzed ECM sentences, where me gets Case from want.

The thing is, the embedded subject actually acts like it's in the matrix clause somewhere.



- If
- There is an AgrOP and
- Normal objects generally go there and
- ECM subjects act like objects
- Then
- We can suppose that ECM subjects move there.




## AsrOP

- Let's take stock here for a second.
- French told us:
- There needs to be an FP between NegP andVP.
- Objects that move past FP have to stop there (inducing object agreement)-so FP is AgrOP.
- How does the object get to AgrOP?
- What differentiates the subject and object is case. So AgrOP is what's responsible for accusative Case. Not $v$.
- We solved an apparent problem with Binding Theory.
- ECM subjects seem to be in the higher clause: Bill considers himself to be a genius. Mary wants her to leave.


## An AgrO you can see?

So, yet another invisible head, inducing invisible movement. Great. Have you syntacticians no shame?

Recall from earlier this semester that Irish is VSO, but yet seems to be SVO underlyingly:

- Phóg Máre an lucharachán. kissed Mary the leprechaun 'Mary kissed the leprechaun.'
- Tá Máire ag-pógáil an lucharachán Is Mary ing-kiss the leprechaun
'Mary is kissing the leprechaun.'
If an auxiliary occupies the verb slot at the beginning of the sentence, the main verb appears between the subject and verb. Otherwise, the verb moves to first position.


## Northern Irish

- So, basically everything points to Irish being a head-initial language. But yet, there's this:
- Ba mhaith liom [Seán an abairt $a^{\text {L }}$ scríobh] C good with.IS S.ACC the sentence.ACC PRT write 'I want S to write the sentence.'
$S$ writing the sentence is good with us (lit.)
- (cf. also I want him to meet me)
- Ba mhaith liom [Seán fanacht]

C good with.IS S.ACC wait
'I want S to wait.'

## Morphology on French verbs

- Past, varying persons: je mange-ai-s
'eat' tu mange-ai-s il mange-ai-t
- Fut, varying persons: je mange-er-ai 'eat' tu mange-er-as il mange-er-a

Tense morphology is inside and separate from subject agreement morphology.

Kind of looks like after tense, another, subjectagreeing morpheme is attached...


## Split-INFL

- The assumption of this structure is sometimes referred to as the "SplitINFL" hypothesis; the INFLectional nodes have been "split" into subject agreement, tense, and object agreement.
- Recall from "history" lessons that what we call TP used to be called "IP" or "InfIP". Hence: SplitINFL.



## Adopting the Split-INFL hypothesis

Lots of good syntax has been done both adopting the Split-INFL hypothesis (trees contain AgrSP, TP, AgrOP) or not (trees contain only IP/TP/InflP).

- For many things, it doesn't matter which you choose-analyses can be directly translated into a Split-INFL tree or vice-versa.

Where it doesn't matter, it doesn't matter, but sometimes it matters.

- On the final and in the homework, for example, it doesn't matter. Stick with vP and TP on the final and homework. But know about AgrOP and AgrSP for future interactions with (particularly slightly older) articles in syntax.


## Adopting the Split-INFL hypothesis

The general program is that every dissociable piece of the structure should get its own place in the lexicon, its own functional head...

- Subject agreement is basically common across verbs, an independent piece.
- Tense too is an independent piece.
- And object agreement
- And... plural marking... and progressive -ing, aspectual -en, ...
- In Syntax II, we'll spend a lot of the semester looking at places in the tree where functional projections need to be added.


[^0]:    - How do we interpret those other wh-words?

