CAS LX 522
Syntax I

Week 11. Articulating the tree

**PRO\textsubscript{arb} giving trees to ditransitives**

- You may recall our discussion of \(\theta\)-theory, where we triumphantly classified verbs as coming in three types:
  - Intransitive (1 \(\theta\)-role)
  - Transitive (2 \(\theta\)-roles)
  - Ditransitive (3 \(\theta\)-roles)

- Theta roles go to obligatory arguments, not to adjunct.

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**Problems continue…**

- I showed Mary to herself.
- *I showed herself to Mary.
- I introduced nobody to anybody.
- *I introduced anybody to nobody.

- This tells us something about the relationship between the direct and indirect object in the structure. (What?)

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**PRO\textsubscript{arb} giving trees to ditransitives**

- Fantastic, except that the two just don’t fit together.
- We know what to do with transitive verbs.
- We know what to do with intransitive verbs:
  - Unergatives
  - Unaccusatives
- But what do we do with ditransitive verbs? We’re out of space!

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**Problems continue…**

- The DO c-commands the IO. But how could we draw a tree like that?

- Even if we allowed adjuncts to get \(\theta\)-roles, the most natural structure would be to make the IO an adjunct, like this, but that doesn’t meet the c-command requirements.
Some clues from idioms

- Often idiomatic meanings are associated with the verb+object complex—the meaning derives both from the verb and the object together.
- We take this as due to the fact that the verb and object are sisters at DS.
  - Bill threw a baseball.
  - Bill threw his support behind the candidate.
  - Bill threw the boxing match.

Idioms in ditransitives

- In ditransitives, it seems like this happens with the IO.
  - Beethoven gave the Fifth Symphony to the world.
  - Beethoven gave the Fifth Symphony to his patron.
  - Lasorda sent his starting pitcher to the showers.
  - Lasorda sent his starting pitcher to Amsterdam.
  - Mary took Felix to task.
  - Mary took Felix to the cleaners.
  - Mary took Felix to his doctor’s appointment.

So V and IO are sisters...

- Larson (1988) took this as evidence that the V is a sister to the IO at DS.
- Yet, we see that on the surface the DO comes between the verb and the IO.
  - Mary sent a letter to Bill.
  - Where is the DO? It must c-command the IO, remember. Why is the V to the left of the DO at SS?

Where’s the V? Where’s the DO?

- We already know how to deal with this kind of question if what we’re talking about is the verb coming before the subject in Irish, or the verb coming before adverbs in French…
- The answer: The verb moves over the DO. But to where?

Where’s the V? Where’s the DO?

- Larson’s answer to this is obvious, in retrospect. If we’re going to have binary branching and three positions for XPs (SUB, IO, DO), we need to have another XP above the VP.
- Since the subject is in the specifier of the higher XP, that must be a VP too.
- Ditransitive verbs really come in two parts. They are in a “VP shell” structure.

Where’s the V? Where’s the DO?

- The higher verb is a “light verb” (we’ll write it as vP to signify that)—its contribution is to assign the [\] role to the subject. The lower verb assigns the [\] roles to the DO and the IO.
- ATB movement: What did [vP Bill buy t i] and [vP Mary eat t i]?
  - Bill gave a book to Mary and a record to Sue.
  - Bill gave [vP a book t i to Mary] and [vP a record t i to Sue].
**PROarb sending a letter to Bill**

- So that covers *Mary sent a letter to Bill*, by saying there are two VPs, *send* head-moves from the lower one to the upper one, over the DO.
- *Mary sent*, a letter *t₁* to Bill.

  *Note: You can also say *Mary sent Bill a letter*, which is one of the major things Larson was concerned about. How this works is less well-settled, and will be saved for Syntax II. (Cl. ?Mary sent me him/ Mary sent him to me)*

**And so it begins**

- The direction that syntactic theory has tended to progress over the years is that as we learn more about how sentences are structured, we begin to zoom in on the trees, to see finer structure.
- In a sense, the VP we had before was a good first approximation, but as we look more closely we see that even the VP has more internal structure.
- Bits of a sentence that have independent, separable meanings are “factored out” into their own phrases. In the ditransitives, we “factored out” the *light verb* (assigning the Agent [i-role], for example. A similar fate awaits TP.

**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 verb-movement to T. French and English differ in whether they move finite main verbs to T.

**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 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 T.*
- Now let’s look at infinitives, first the auxiliaries...
  - N’être pas invité, c’est triste.
  - NE beNeg, NEG invited, it’s sad
  - ‘Not to be invited is sad.’
  - Ne pas être invité, c’est triste.
  - NE beNeg, invited, it’s sad
  - ‘Not 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 paraitre triste pendant son voyage de noce, c’est rare. Often appear sad during one’s honeymoon, it’s rare
  - ‘To often look sad during one’s honeymoon is rare.’
  - Paraitre souvent triste pendant son voyage de noce, c’est rare. Apparaît 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:** V Adv, V neg: Moves to T.
- **Nonfinite main verbs...and negation:**
  - Ne pas sembler heureux est une condition pour écrire des romans. 'Not to seem happy is a prerequisite for writing novels.'
  - Ne semblé pas heureux est une condition pour écrire des romans. 'Not to seem happy is a prerequisite for writing novels.'
- Nonfinite main verbs can not move past negation.

French and a problem...

- **Fin aux/verb:** V Adv, V neg: Moves to T.
- **Fin aux:** (V) Adv (V), (V) neg (V) (Opt.) Moves to T.
- **Fin verb:** (V) Adv (V), V neg:
  - Moves to 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)...

French and a problem...

- **Fin aux/verb:** V Adv, V neg: Moves to T.
- **Fin aux:** (V) Adv (V), (V) neg (V) (Opt.) Moves to T.
- **Fin verb:** (V) Adv (V), V neg:
  - Moves over adv not neg?
  - We need there to be a head here in the tree for the verb to move to...

What is FP?

- Vous avez pris les pommes.
  - You took the apples.
- Vous avez pris les pommes.
  - You took them (3pl).'
- Quelles pommes avez-vous prises?
  - Which apples did you take?
- Vous avez pris la pomme.
  - You have taken the apple
- Vous avez pris les pommes.
  - You have taken the apples.

A new FP

- **Fin aux/verb:** V Adv, V neg: Moves to T.
- **Fin aux:** (V) Adv (V), (V) neg (V) (Opt.) Moves to T.
- **Fin verb:** (V) Adv (V), V neg:
  - Moves to Adv not neg?
  - Now we have a place for nonfinite main verbs to move, past adverbs but under negation. They can move to F.

A new FP

- As the verb and the object make their way up the tree, assuming the object moves to SpecFF, there is a point where the verb and object are in a Spec-head configuration.
- This is how the verb would check its object agreement features.
- Based on this, FP is generally called AgrOP. Object agreement phrase.
AgrOP
- AgrOP, Object agreement phrase.
- As the verb moves up to T, it has to stop off in AgrOP (the Head Movement Constraint requires it), forming successively more complex heads.
- V
- AgrO+V
- T\{[AgrO+V]
- But why does the object have to move to SpecAgrOP?

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 because me is in the "government radius" of want.
- The thing is, the embedded subject actually acts like it's in the matrix clause somewhere.

ECM vs. BT
- Our options are basically to
  - complicate the definition of binding domain in Binding Theory
  - or to
  - suppose the object has really moved out of the embedded clause.
- The textbook had a ridiculous drawing at the end of ch. 9 and again in ch. 10, taking the second option and suggesting that we move the object out of the embedded clause and make it a third branch under the matrix V. This is not the way to go—We like our X-bar theory. But, now...

AgrOP
- Why does the object have to move to SpecAgrOP?
- What makes DPs move? We know the subject moves. Partly for the EPP, but partly to get Case.
- The subject gets Case in SpecTP, so we know Case can be assigned to a specifier.
- What if we revise our notion of how objects get Case and say that they too get Case in a specifier of AgrOP? Then it would have to move.
- Plus, it's pleasingly symmetrical
  - (But use a problem? We'll get to it shortly...)
**A moment of silence for Case under government**

- Let’s take stock here for a second.
- French told us:
  - There needs to be an FP between NegP and VP.
  - Objects that move past FP have to stay there (inducing object agreement)—so FP is AgRO.
- Why do they have to stop in AgRO?
  - They need Case. So AgRO is what’s responsible for accusative Case.
  - But V was used to be responsible for that:
    - Yet now we have a more symmetrical solution: Case is always assigned in the specifier of a functional projection. (Just about, anyway)
    - And we have no more need for the “government radius” in Case assignment now that ECM is taken care of too.
  - Plus, we have evidence from binding theory that objects do seem to move by LF to someplace outside the clause in ECM constructions.

**An AgrO you can see?**

- Recall from earlier this semester that Irish is VSO, but yet seems to be SVO at DS:
  - Phoin Mháire an luchairach.  
    Mary kissed the leprechaun.
  - Tá Mháire ag-pógá an luchairach.  
    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 except…
- Ba mhaith liom [Seán an abairt a4 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, subject-agreeing morpheme is attached...

AgrSP?
- AgrSP, Object agreement phrase.
- AgrSP, Subject agreement phrase?
- Pleasingly symmetrical!
- Complex heads:
  - V
  - AgrO+V
  - T+[AgrO+V]
  - AgrS+[T+[AgrO+V]]

The EPP & NOM
- We said before the T needs a specifier (at S), that's the essential content of the EPP. Plus, we said before that this is where NOM is assigned.
- Now there is AgrSP as well.
- AgrOP is responsible for ACC.
- In a symmetrical world, seems like AgrSP should be responsible for NOM.
- So, now that (kind of mysterious) double motivation for moving to SpecTP has been clarified. The subject has to move to both SpecTP and SpecAgrSP, but each movement happens for a different reason. T for EPP, AgrSP for NOM.

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 TP).
- 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.

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.
In recent literature, almost everything you read will make this assumption, that cross-linguistically, the clause is minimally constructed of these projections, generally in this order:

- CP
- AgrSP
- TP
- AgrOP
- VP

Actually, there is one place where we haven’t unified Case-assignment, namely the oblique Case that is assigned to the complement of P. For now (this whole semester), we’ll just leave it at that. P can assign oblique Case to its sister, although V cannot assign accusative Case to its sister.

So DPs that are objects of prepositions don’t need to go anywhere, they’re fine where they are.

Sometimes the distinction is made between structural and inherent Case:
- Structural Case (NOM, ACC) is assigned by movement to someplace in the structure (SpecAgrOP, SpecAgrSP).
- Inherent Case is assigned in place, e.g., by P.

Let’s go back and consider VP shells a bit in connection with unaccusatives.

The ice melted.

The boat sank.

The door closed.

The ice, the boat, the door are all Themes, suggesting that the verbs are unaccusative—the argument starts in object position.

In Bill melted the ice what have we done?

We’ve added a causer, an agent.

Bill caused [the ice to melt].

We’ve already supposed that the light verb v assigns the Agent [+]-role in ditransitives...

It isn’t much of a jump to think of v as actually having a contribution to the meaning, something like CAUSE.

And back to little v...

Recall that this is the structure that we came up with to get the word order right, and to comply with X-bar theory.

We determined there must be a “little v”, a light verb, to which the V moves overtly. This little v assigns the Agent [-]-role. So English has a v in its lexicon that assigns the Agent [+]-role.

A somewhat radical idea occurs…

VP shells

So far, so good.

Now, Bill melted the ice.

The ice is still Theme. The verb is still melt.

Uniform Theta Assignment Hypothesis (UTAH) (Baker 1988). Two arguments which fulfill the same thematic function with respect to a given predicate must occupy the same underlying (DS) position in the syntax.

So the ice must still be a complement of the verb at DS.
**VP shells**

- Bill melted the ice.
- So, something like this, where the main verb moves up to the light verb (which we had evidence for in ditransitives).
- Later, Bill will move to SpecTP, SpecAgSP for Case and EPP reasons.
- Why does V move to ? We’ll assume that it does this for a reason analogous to why V moves to T (for French verbs, say). Might be universal, actually. “v needs a V to move to it.”

**Note.** Even though v may carry a “causative” meaning, this does not mean that it is synonymous with the English word “cause”. There is a difference in the “directness” of the causal connection. What it really seems closest to is “Agent”.

- The water boiled.
- Bill boiled the water
- Bill caused the water to boil
- Bill cause TP

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**Back to the radical idea…**

- So, we have v, which assigns an Agent [ ]-role.
- We have Agent [ ]-roles in clauses other than Bill sank the boat and Bill gave a boat to Edward.
- We also have an Agent [ ]-role in sentences like Bill ate the sandwich.
- Are there two ways to assign the Agent [ ]-role?
- What if v is the way the Agent [ ]-role is assigned?
- What would Bill ate the sandwich look like?

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**Bill ate the sandwich**

- Well, we already saw essentially what it would look like. It looks just like Bill melted the ice.
- v assigns Agent to Bill, V (eat) assigns Theme to the sandwich.
- Also note: The subject is still in “SpecVP” except that we’ve sharpened our picture of what “VP” is. A “VP” with an Agent is really a vP and a VP.

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**Bill lied.**

- In fact, things get weirder…
- Consider Bill lied.
- That’s got an Agent, so it’s got a v.
- So, it could look like this.
- But lie is really (also?) a noun, right? Is this a coincidence?
  - (How about Bill danced, Bill walked, Bill sneezed, …)

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**Bill lied?**

- One proposal out there about this kind of verb is that it really is built from the noun.
- That is, we have v+N, which would come out to mean something like ‘Bill was the agent of a lie.’
- If that’s right, it means v really is its own thing, and moreover, it’s responsible for giving these verbs their verb nature.
The sandwich was eaten

Let’s think about passives.

What happens in a passive?
- The Agent [-role is suppressed.
- Accusative Case is no longer available to the object.

What does that mean in these terms, considering v to be the thing that assigns Agent and AgrOP to be the thing that gives Case?

The sandwich was eaten

Sure, no vP, no AgrOP.

Everything else follows as before:
- The sandwich needs Case.
- SpecTP needs to be filled.
- The sandwich moves to SpecTP.
- The sandwich moves to SpecAgrSP.

Burzio’s generalization is now that there is an AgrOP if and only if there is a vP. They come and go together.

The sandwich was eaten

So, we end up with something like this, where AspP is where vP used to be.

Since passive is actually a different sort of thing from aspectual have eaten and be eating, sometimes people call this VoiceP)

And back to ditransitives

In the split-INFL system, we have something like this:
- The V moves to v, and eventually to AgrO.
- AgrO assigns Case, and it should only be compatible with transitive verbs, so v needs to get close enough to verify that they match (we can think of this as AgrO “pulling up” the v). (Perhaps source of BG?)
- The object moves to SpecAgrOP to get/check Case.
- The subject moves up to TP and SpecAgrSP.