Projects for today

- Review PRO and control, with some additional evidence for PRO from Binding Theory.
- Look at one other place where CPs appear inside other sentences: clausal adjuncts.
- Look at the phenomenon of “V2” languages—another place where CP is important.

Before we finish embedded clauses...

- Embedded clauses can also be modificational adjuncts.
- Pat ate lunch [pp on the hill] [pp by the tree] [pp in the rain].
- To express reasons and times, we also find whole CPs adjoined to our clause:
  - We discussed adjuncts [cp before we finished our discussion of embedded clauses]
  - There’s nothing really new here, except the observation that before can have category C.
  - Just like after, while, during, etc.

Adjunct clauses: where do they go?

- Pat cleaned poorly yesterday.
- #Pat cleaned yesterday poorly.
- Pat cleaned poorly [before Chris arrived].
- #Pat cleaned [before Chris arrived] poorly.
- Pat cleaned [before Chris arrived] yesterday.
- Pat cleaned yesterday [before Chris arrived].
- Pat heard that [before Chris arrived] [Tracy cleaned the sink].
- Pat heard [before Chris arrived] that [Tracy cleaned the sink].

because clauses

- Reason clauses are also clausal adjuncts.
- Because I lost the game, I left.
- I left because I lost the game.

If clauses

- If clauses are like because clauses.
- If he loses the game, I will leave.
- I will leave if he loses the game.
Unique θ-Generalization

- *Karr accused.
- This cannot mean *Karr accused himself; and isn’t good on its own. We concluded (back in chapter 3, p. 81), that θ-role assignment is constrained by….
- **The Unique θ-Generalization**
  Each θ-role must be assigned but a constituent cannot be assigned more than one θ-role.
- So, presume that’s true.

PRO

- Jack tried to capture Nina
- Here, *capture has two θ-roles (Agent and Theme), and try has two θ-roles (Agent and Proposition). Intuitively, Jack is the Agent of both the trying and the capturing. But assuming that the Unique θ-Generalization is true, this can’t be: *Jack can’t be getting two θ-roles.
- **Something** must be getting the Agent θ-role of *capture (Jack is pretty clearly getting the Agent θ-role of try), but we can’t see it.
- **Conclusion**: There’s something we can’t see there, getting the Agent θ-role of *capture. It’s a little bit like a silent pronoun, so we call it PRO.

**PRO**

- Jack tried [ to PRO capture Nina ]

- PRO must be there to satisfy the UθG.
- But something must be there in the specifier of TP: T always has a [uD*] feature to check (the "EPP").
  - (except maybe in Irish and Arabic)
- Since Jack tried to capture Nina is grammatical, we also need PRO to move to SpecTP to satisfy the EPP.

**One more argument for PRO**

- **Principle A**: An anaphor must be bound in its binding domain.
  - Jack hoped [ that Kim would explain herself ]
  - Jack wanted [ Kim to explain herself ]
  - *Jack hoped [ that Kim would call himself ]
  - *Jack wanted [ Kim to call himself ]
  - Jack hoped [ PRO to see Kim ]
  - Jack hoped [ PRO to exonerate himself ]

- **Principle B**: A pronoun must be free in its binding domain.
  - Jack hoped [ that Chase would exonerate him ]
  - Jack wanted [ Chase to exonerate him ]
  - Jack hoped [ PRO to exonerate him ]

**PRO**

- So, we have pretty good evidence for PRO, despite its invisibility:
  - We believe T has a [uD*] feature (EPP).
  - Every TP needs a specifier.
  - We believe the Unique θ-generalization.
  - No DP can get two different θ-roles.
  - Binding Theory reacts as if something is there serving as a binder.
Idioms

• Idiomatic interpretation available for raising verbs:
  • [The cat], seems t, to have your tongue.
  • [The cat], seems t, to be out of the bag.

• The cat was originally Merged within the lower VP—its θ-role comes from have/be out.
  Not so here:
  • [The cat] tried [PRO to have your tongue].
  • [The cat] arranged [PRO to be out of the bag].
  • A further argument for PRO being there and being something different from [the cat].

Subject control v. object control

• Subject control verbs take a nonfinite complement, with PRO as the subject, and PRO must refer to the higher subject.
  • Gael tried [ PRO to disarm the bomb ]
• Object control verbs are ditransitives that take an object and a nonfinite complement, with PRO as the subject, and PRO must refer to the higher object.
  • David persuaded Sherry [ PRO to leave ]

Object control

• We have not yet covered nonfinite complement that appears with verbs like persuade.
  1) Sayid persuaded Kate to stay.
  • As with other verbs with nonfinite complements, we think through the “participants” to get a handle on whether we have enough DPs for the θ-roles.
    • Stay has only one participant, Kate.
    • Persuade has three—the one doing the persuading (Sayid), the one being persuaded (Kate), and the proposition in question ( [fr Kate to stay] ).
    • So we don’t have enough DPs for the job—Kate appears to be playing two roles (one from stay, one from persuade). This sounds like a job for PRO.
• Sayid persuaded Kate to stay.
  • Sayid persuaded Kate [cp Ønull PROnull to stay]

  • Again we have PRO, as we do in
    • Kate tried [cp Ønull PROnull to see]
  • But in Sayid persuaded Kate to stay, what “controls” PRO?

Persuasion and promises

• Not all ditransitive control verbs are object control verbs.
  • Though all object control verbs are ditransitives.
    1) David persuaded Sherry [ PRO to leave ]
    2) David promised Sherry [ PRO to run for office ]
    3) Chase asked Jack [ PRO to be allowed to continue ]
    4) Chase asked Jack [ PRO to get off his case ]
  • Whether a verb is a subject control verb or an object control verb is an individual property of the verb. Promise is recorded in our lexicon as a subject control verb, persuade as an object control verb.

Object control

• Sayid persuaded Kate to stay.
  • Sayid persuaded Kate [cp Ønull PROnull to stay]

  • Again we have PRO, as we do in
    • Kate tried [cp Ønull PROnull to see]
  • But in Sayid persuaded Kate to stay, what “controls” PRO?

ECM verbs

• ECM verbs also take infinitive complements, but with an overt subject (that checks accusative case with the ECM verb).
  • Tony found [ Michelle to be charming ]
  • Tony found [ that Michelle was charming ]
  • Jack expected [ Tony to take the day off ]
  • Jack expected [ that Tony would take the day off ]
Raising verbs

- Raising verbs have no Agent/Experiencer in Spec\(v\)P, and take a nonfinite complement. The subject of the embedded complement moves into their subject position:
  - Jack seems [\(<\text{Jack}>\) to be tired ]
  - It seems [ that Jack is tired ]
  - The time appears [ \(<\text{the time}>\) to have expired ]
  - It appears [ that the time has expired ]
  - The President happened [ \(<\text{the President}>\) to have a pen ]
  - It happened [ that the President had a pen ]

Verb classes in summary

- ECM verbs, e.g., believe, find
  - I believe [\(\text{TP him to have told the truth}\)]
  - We find [\(\text{TP these truths to be self-evident} \)] (or hold)
- Subject control verbs, e.g., attempt, promise
  - Kim\(k\) promised Jack [\(\text{CP} \text{Ø} \text{PRO}_k\) to avoid kidnappers ]
  - Kim\(k\) will try [\(\text{CP} \text{Ø} \text{PRO}_k\) to avoid kidnappers ]
- Object control verbs, e.g., convince, ask
  - I convinced her\(k\) [\(\text{CP} \text{Ø} \text{PRO}_k\) to drive to work].
  - Jack asked Kim\(k\) [\(\text{CP} \text{Ø} \text{PRO}_k\) to avoid kidnappers ].
- Raising verbs, e.g., appear, seem
  - I appear [\(\text{TP } \text{<I> to have missed the bus}\)]
  - Jack seems [\(\text{TP } \text{<Jack> to need a nap}\)].

While thinking about syntax

- Before finishing his homework, Ike watched TV.
  - \textit{Finish}: transitive (Agent, Theme)
    - Agent: ?
    - Theme: \textit{his homework}
  - \textit{Watch}: transitive (Agent, Theme)
    - Agent: Ike
    - Theme: TV
  - \textit{Ike watched TV} is the main clause.
  - \textit{Before finishing his homework} is a modifier.

While thinking about syntax

- Before finishing his homework, Ike watched TV.
  - Intuitively, it is Ike who was (at least at risk of) finishing his homework.
  - We are not going to have any particular explanation for exactly \textit{how} the interpretation tied to the subject comes about, but it seems to be.
  - Before he finished his homework, Ike watched TV.
Before PRO finishing...

- How does PRO get its case feature checked?
- Some relevant sentences:
  - Before he finished his homework, Ike watched TV.
  - Before Ike's finishing of his homework, tension was high.

The only thing left is to attach the modifier into the main clause...

Before his cooking of the turkey, Ike had never opened the oven before.

On gerunds

- There is yet another form of the verb that shows up with -ing on the end of it in English: the gerund.
- A gerund is basically a verb acting as a noun—we've been looking at this kind of deverbal noun already. One way to tell whether you are looking at a gerund (noun) or not (a verb) is to see whether it is modified by adjectives or adverbs:
  - Before his quick(ly) cooking of the turkey...
  - Before quick-*(ly) finishing his homework...

There seems...

- We also find seem with there.
  1) Vincent seems to be lost.
  2) It seems that Vincent is lost.
  3) There seems to be a dog in the woods.

- It is an expletive subject that checks both the EPP and case features of T. There checks only the EPP feature of T (a dog checks T's case feature).
There seems a man to be in the garden.

1) There seems to be a man in the garden.
   - There appears in SpecTP, satisfying the EPP feature.
   - There are two TPs here, and each TP has/had an EPP feature.
   - There seems [TP to be a man in…]]
   - So, there must have first merged into the lower SpecTP and then moved to the upper SpecTP.
   - There seems [TP to be a man in…]]

So, there must have first merged into the lower SpecTP and then moved to the upper SpecTP.

The thread here (chapter 8) is motivating and making use of the CP level of our structure:

- C is the home of the [clause-type:…] feature, differentiating interrogatives and declaratives.
- C is sometimes available to check case on the subject when it can’t be checked the higher verb (ECM) or finite T:
  - I want [Ø NULL PRO to see more syntax.]
  - I intended [for her to be win the lottery].
- We’ll see more for CP as we explore question formation—but first, we’ll see it at work in German…

V2 languages

- There are a number of languages that are classified as “verb second” or “V₂” languages. They are so called because in general the (tensed) verb must be second, after the first major constituent in the sentence.
  - De man heeft een boek gezien gisteren.
  - Een boek heeft de man gezien gisteren.
  - Die Kinder haben diesen Film gesehen.

(Dutch) (German)

Analyzing V₂

- How can we account for this?
- Assume that in German, most things are very similar to English:
  - The UTAH is the same (Agents in SpecvP, etc.)
  - The EPP is the same (T has a [uD*] feature; there needs to be a DP in SpecTP)
- Things to remember:
  - French/Irish and English differ in whether v moves to T.
  - Irish and French/English differ in whether the subject moves to SpecTP.
  - In English yes-no questions (but not in declaratives), T moves to C.
English Yes-No Question

- In a YNQ, the [Q] feature of C matches and values the [u clause-type:] feature of T as strong ([Q*]).
- T moves up to adjoin to C, checking the feature.

Analyzing V2

- Since the finite verb is sometimes to the left of the subject:
  - Diesen Roman las ich schon letztes Jahr
  - this book read I already last year
  - ‘I read this book already last year.’
- Just like it is in English YNQs:
  - Will I get an A?
- We can suppose that German and English differ in that when C values the [u clause-type:] feature of T, it is always strong.
- In fact, more natural sounding than what we have to say in English: When C values [u clause-type:] as [Q] (but not [Decl]) it’s strong.

Topics

- The constituent that appears first in a V2 clause is generally considered to be a topic.
- Suppose that C has a “topic” feature [utop*] and whatever is the topic of the sentence (be it an adverb, the subject, the object) is also marked with an (interpretable) [top] feature.
- Then this will work just like the EPP, essentially.

V2 languages

- The basic idea we’ll be pursuing with respect to V2 languages is this:
  - To get the tensed verb higher than the subject (which is sometimes is), we move the verb to T, and then T (with the verb) to C.
  - To put C into “second position”, we move some phrase into SpecCP.
  - The “first phrase” in V2 languages is generally interpreted as the topic of the sentence.
  - So, we say that the topic (whatever it is going to be) has a feature that marks it as such: An interpretable [top] feature.

Reminder: T, v, and [uInfl:]”

- The way our system works (movement happens in order to check strong uninterpretable features), we implement this as follows:
- Because the verb moves to T, we need there to be a strong feature checked between T and v.
- This is common cross-linguistically. Recall French, where the highest verbal head (the v, or an auxiliary) moves to T.
- This explained why verbs always precede adverbs and negation in French.
- Since the [tense] feature of T values the [uInfl:] feature of the highest verbal head, we say that in French, when [tense] values [uInfl:], the feature is strong.

Reminder: v to T

- So, v starts out with a [uInfl:] feature.
- v always starts out with a [uInfl:] feature.
- We Merge T and the [tense] feature (e.g., [past] = [tense:past]) matches and values the [uInfl:] feature.
- What differentiates French and English is that when [tense] values [uInfl:], the valued [uInfl:] feature is strong.
- In English, it is not strong except in one case: if the [uInfl:] feature is one an auxiliary (Perf, Prog, Pass), then a [uInfl:] feature valued by [tense] is strong.
- Auxiliaries precede negation and adverbs, main verbs do not.
Reminder: Strong features

- Strong features are uninterpretable features that can be checked only when local to (a sister of) the feature that checks them.
- Strong features very often = something must move.
- A feature gets to be strong in one of two ways:
  - An inherently strong feature of the lexical item.
    - \( v \) has a strong \([uV^*]\) feature.
    - \( T \) has a strong \([uD^*]\) feature.
    - \( \text{eat} \ (V) \) has a strong \([uD^*]\) feature (associated with the Theme \( \theta \)-role).
  - A feature that becomes strong when valued.
    - \( \text{Prog} \) has a weak \([u\text{Inf}^*]\) feature. When valued by \([\text{tense}]\), it becomes strong. (In English, \( \text{Aux} \) moves to \( T: \text{I am not eating green eggs & ham} \))
    - \( T \) has a weak \([u\text{clause-type}^*]\) feature. When valued by \([\text{clause-type}:Q]\), it becomes strong. (In English, \( T \) moves to \( C \) in questions: \( \text{Would you eat them on a train?} \))

V2 languages

- To account for the fact that \( v \) moves to \( T \) and then \( T \) moves to \( C \) in German: a feature that \( C \) values on \( T \) is valued as strong.
- \([u\text{clause-type}^*]\) is a perfect candidate.
- So, when \([u\text{clause-type}^*]\) is valued by \( C \) in German, it is valued as strong, and so \( T \) moves to \( C \).

V2 languages

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V2 languages

- To account for the fact that the topic moves into SpecCP, we say that \( C \) has a \([u\text{top}^*]\) feature. Whatever is the topic in the sentence will have a feature designating that, \([\text{top}]\).
- Just like the EPP feature \([uD^*]\) of \( T \) forces the subject into SpecTP, the \([u\text{top}^*]\) feature of \( C \) will force movement of the topic into SpecCP.

V2...step 1

- \( V \) moves to \( v \).
- \( \text{Perf} \) moves to \( T \).
- \( T \) moves to \( C \).
- \( \text{Subject} \) moves to SpecTP.
**V2...step 2a**

- The object is marked as topic.
- C has a [utop*] feature.

**V2...step 2b**

- The object moves up to SpecTP.
- The tensed verb is now in second position.

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**Embedded clauses**

- Will John arrive late?
- T moves to C in English questions.
- [uclause-type:] on T is strong when valued by [Q] on C.
- I wonder [CP if John will arrive late].
- T does not move to C in embedded questions.
- Perhaps because C is "filled" already (by if).
- Intuition: We need to be able to tell when C is [Q]—if nothing is pronounced there, we move T there to signal that C is [Q].
- Er sagte [CP dass ich schon letztes Jahr diesen Roman las] he said that I already last year read this book.
- If C is filled in German (dass), T does not move to C.
- Also notice that when T does not move to C, the verb is at the end.
- German appears to be a head-final language.

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**Interlude: what we’re doing**

- Remember, what we’re doing is trying to describe our knowledge of language.
- We believe that the intricacies of human language are actually too complicated to learn, that we’re in fact describing a kind of system that is genetically “built-in”, sort of like our vision system.
- If that’s the case, the same system must underlie all human languages, and the differences must be relatively minor.
- We’re identifying a few “parameters of variation”—ways in which human languages can differ.

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**Interlude: what we’re doing**

- What we’re saying here is that languages can differ in a few small respects, and we can account for that:
  - **Headedness:** heads come before complements in some languages (English), and after complements in others (Japanese, German).
  - **Verb-raising:** some languages move v to T (French), others don’t. (Under what conditions does T value [UnInf] as strong?)
  - **V2:** some languages move v all the way to C (through T), and topologize something, yielding the V2 pattern. (Under what conditions does C have a [utop*] feature and value [uclause-type:] as strong?)
  - **EPP:** VSO languages seem to move v up to T, but don’t move the subject to SpecTP, yielding VSO. (Does T have a [uD*] feature?)