CAS LX 522
Syntax I

Week 6a. Case and checking (with a little more θ-Theory)

Previously, in LX522…

- We were talking about θ-roles, the "argument slots" that predicates (e.g., verbs) have. These are the "roles" that the participant play in the event.
- As part of their *lexical entry*, verbs have a list of θ-roles that they assign, a list of required participants.
  - Kick: Agent, Theme
  - Jog: Agent
  - Introduce: Agent, Theme, Goal

Common thematic relations

- Agent: initiator or doer in the event
- Theme: affected by the event, or undergoes the action
  - Bill kicked the ball.
- Experiencer: feel or perceive the event
  - Bill likes pizza.
- Goal:
  - Bill gave the book to Mary. (Recipient)
- Proposition: a statement, can be true/false.
  - Bill said that he likes pizza.

The θ-criterion

- **The θ-criterion:**
  - **every θ-role in the θ-grid is assigned to exactly one argument.**
  - **every argument is assigned exactly one θ-role.**
- The second half protects us against superfluous arguments. But it's hard to evaluate this if we don't know what an argument is.
  - It's hard to say, actually. There are some further concepts that we should have before we can even start to state this accurately. For now, let's just suppose that DPs and CPs are necessarily arguments, and PPs usually aren't.

Theta Grids

- We can formalize the information about θ-roles in the lexical entry for a verb by using a *theta grid*, like so:

give

Source/Agent	Theme	Goal
i	j	k

- The columns each represent a θ-role, the indices in the lower row will serve as our connection to the actual arguments; e.g.
- John^{i} gave [the book]^{j} [to Mary]^{k}.

Theta Grids

- John^{i} gave [the book]^{j} [to Mary]^{k}.

give

Source/Agent	Theme	Goal
i	j	k

The first θ-role is assigned to the subject. It is the *external* θ-role. It is often designated by underlining it.

The other θ-role are *internal* θ-roles.

Theta Grids

- **The θ-roles in the theta grid are obligatory.** (Optional things like *on the hill* are not in the θ-grid).

give

Source/Agent	Theme	Goal
i	j	k

- Adjuncts are related to the verb via thematic relations (e.g., instrument, location, etc.), but an adjunct does not get a θ-role. They are optional.

The Theta Criterion in action

- An example: *push*.

push

Agent	Theme
i	j

- Bill^{i} pushed the shopping cart^{j}.
  - Fine, ***push*** assigns two θ-roles, one (the external θ-role) is assigned to ***Bill***, the other (the internal θ-role) is assigned to ***the shopping cart***. There are two arguments here, each gets a θ-role.
- *Bill^{i} pushed. (j?)
- *Bill^{i} pushed the shopping cart^{j} the corner$^{?}$.

The Theta Criterion in action

- An example: *cough*.

cough

Agent
i

- Bill^{i} coughed.
  - Fine, *cough* assigns one θ-role (the external θ-role), to *Bill*. There are one arguments here, and it gets a θ-role.
- *Bill^{i} coughed the shopping cart$^{?}$.

The EPP

- With the Theta Criterion in our toolbox, let's take a look at a special kind of sentence (which will turn out to tell us something important about syntax).
  - It rained.
  - It snowed.
- How many θ-roles does *rain* assign?
- If we think about *it*, it doesn't really mean *anything* at all. It is not a participant in the event; it really *can't* be getting a θ-role. (cf. also Spanish).

The EPP

- So, the theta grid for *rain* really looks like this:

The EPP

- Given the θ-Criterion and the fact that *rain* doesn't have any θ-roles to assign, what's *it* doing there? And why doesn't *it* violate the θ-Criterion?
- As to the first question, the conclusion that syntacticians have come to is that the *it* is there due to a separate constraint, which goes by the name EPP.

The EPP

- **The EPP**
  IP must have a specifier.
- More informally, **all clauses have subjects**.
- Because *rain* has no arguments (no θ-roles), a special, contentless pronoun (*it*) has to be inserted to in order to have a grammatical sentence. This kind of "empty *it*" is called an *expletive* or a *pleonastic pronoun*. ***It* is not an argument (in this use).**
- **We stipulate that *it* is not subject to the θ-criterion.**

Features and Case

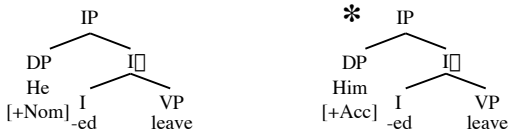
- Recall that pronouns in English have several Case forms, indicating their grammatical function (subject, non-subject):
  - Nominative (subject):
    He, she, they, …
  - Accusative/objective (non-subject):
    Him, her, them, …
- But what's *wrong* with **Him left*?

Features and Case

- What stops us from picking *him*, a [+Past] I, and *leave*, and Merging in order to produce *him left*?

Features and Case

- The intuition is that subjects (things in the specifier of IP, at least for I like [+Past]) must have nominative Case. **I needs [+Nom] in its specifier.**

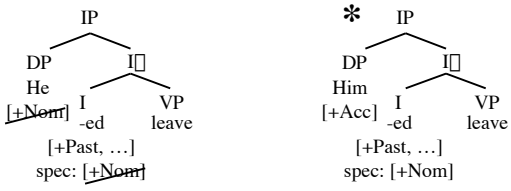


Specifier features

- To encode this requirement, we posit a second type of feature on the lexical items of category I: the *specifier features*.
- Specifier-features are *requirements*; they are features that must be found in the specifier.
- If I has a [+Nom] specifier feature, SpecIP (the specifier of IP) must have a [+Nom] feature.

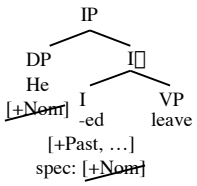
Features and Case

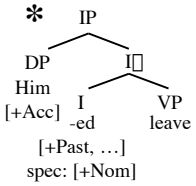
- When we Merge the DP with [*-ed leave*] to form SpecIP, the features of the specifier are "checked" against the (specifier) features of the head. If they match, they are removed from the to-do list, they are "checked off".



Features and Case

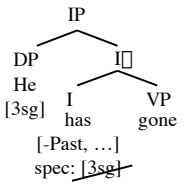
- If we finish with unchecked features of this kind, the derivation crashes, the sentence is no good.
- These features are *uninterpretable* and so if they are still there when we try to compute the meaning of the structure, we can't.

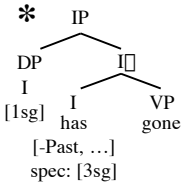




Subject agreement

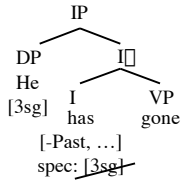
- The same kind of thing rules out **I has left*.
- Here, the problem is that the subject is [1sg] (a.k.a. [+1,-2,-Pl]), *has* is [3sg] (a.k.a. [-1,-2,-Pl])

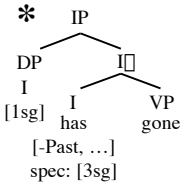




Subject agreement

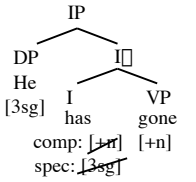
- The [1sg], [3sg] features are fundamental to the meaning of the pronouns, so they are not uninterpretable. But specifier features on has are still uninterpretable and must be checked off.
- Only uninterpretable features are checked off (deleted from the to-do list) when satisfied.

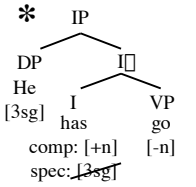




Complement features (subcategorization)

- Heads also can impose similar requirements on the kind of phrase that they have as a complement. For example, *has* requires the perfective (*-en*) participle form of the verb. (I'll use [+n] as a shorthand for [+Participle, +Perfect])
- We can encode these as *complement features*.





Features

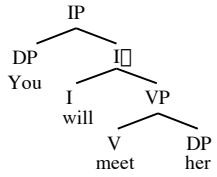
- Lexical items have three kinds of features.
  - **Head features:** Primary features…
  - **Specifier features:** Uninterpretable features that must be checked against the features of the specifier (at last projecting Merge).
  - **Complement features:** Uninterpretable features that must be checked against the features of the complement (at first projecting Merge).

Head features

- **Interpretable**: Fundamental to the meaning, crucial to interpreting the meaning of the structure
  - [3sg] on pronouns, [D] on determiners
- **Uninterpretable**: Not part of the meaning, but nevertheless part of the lexical item. Must be eliminated (checked off) by the end of the derivation.
  - [+Nom] on determiners, [+Nom] on I, [3sg] on auxiliaries

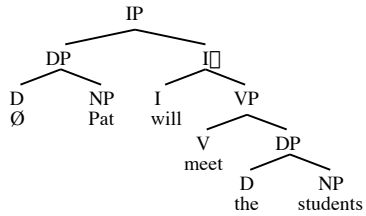
Features and Case

- How about objective (accusative) Case? How would we encode the fact that *You will meet her* is fine, but **You will meet she* is ungrammatical?



Case and the DP

- Fantastic. Now why is this grammatical (assuming that *will* and *meet* are the same as in *I will meet you*)?



Back to θ-theory?

- We started off looking at *argument requirements* that verbs impose, in terms of their θ-grids, the θ-roles that they need to assign.
- Can we think of these in terms of complement and specifier features?
  - *Pat kicked the ball.*
  - *Pat slept.*

Details…

- Trying to encode the Agent θ-role as a specifier feature brings up a complication: The Agent is in SpecIP, not SpecVP, so how would a specifier feature of V be checked?
  - (We don't want Agent to be a specifier feature of I, because not all subjects are agents—it depends on the specific verb).

Percolation?

- Radford introduces a concept called **percolation** to handle problems like this. If V has a specifier feature that is not checked off before its last projection (VP), the requirement is "passed up the tree" to the next head (I), and becomes a requirement of I.
- Using this, we *could* say that if V has an Agent specifier feature, it can be passed up to I and satisfied by having an Agent in SpecIP.
- For now (these two weeks), we will assume this is what happens. After the midterm, we'll see that we don't really need percolation.

Clarification/preview

- Although they seem to be doing the same thing so far, let me stress:

■Case and θ-roles are not the same thing.

- Case marks structural position in the tree.
- θ-roles are assigned to participants in an event.

Case ≠ θ-role

- After the midterm, we will look at how to handle these, but notice:
  - **Active:** I pushed him.
  - **Passive:** He was pushed.
  - Masc3sg is the Theme (θ-role) in both cases, but the object (Objective/Accusative Case) in the active form, and the subject (Nominative Case) in the passive form.
- Also:
  - The door opened. (Door=Nom, Theme)
  - I opened the door. (Door=Acc, Theme)