CAS LX 522
Syntax I

Week 9a. A-movement
(and a bit more head-movement)

Negation
- We’ve used negation as a test to see if the verb/auxiliary appears before it or after it as an indication of whether the verb has raised or not. We’ve also used adverbs (like *often*) this way.
- Negation acts different from adverbs. For example, negation keeps the tense affix from being pronounced with a verb (in English), but adverbs don’t:
  - Bill did not buy cheese.
  - Bill never buys cheese.
  - Bill quickly bought cheese.
- Yet, both come between I and V in the underlying structure.

French negation
- In standard French, the negation of a sentence generally involves a morpheme *ne* placed before the tensed verb and a morpheme *pas* placed after it, as in:
  - Jean *ne mange* pas des pommes. "Jean doesn’t eat apples."
- However, English gives us reason to believe (assuming NegP is in the same place in the tree in both languages) that NegP comes between IP and VP:
  - Bill will not eat apples.

French negation
- Note that we take *ne* to be a prefix (not a suffix), which means when we create the complex head, the verb adjoins on the right.
- Now, the verb still needs to move to I, but it is attached to the Neg now… so the Neg moves to I.
- Complex heads move as a unit. You can’t “dis-attach” a head from a complex head.

NegP
- A common view of negation is that it has its own projection, a NegP, headed by a negative morpheme. For example, something like this.
- Interestingly, negation sometimes comes “in two parts”, with two morphemes implicated in negation. NegP has in principle two positions available for negative morphemes, its specifier and its head.
- Standard French *ne…pas* is an example of this which we’ll look at now.

French negation
- A common view of how French negation looks at DS is like this, with *ne* being a morpheme of category Neg, heading a NegP with *pas* in its specifier.
- For the moment, we won’t concern ourselves with the categorial status of *pas*; clearly it must be an XP of some kind itself, maybe also of category Neg, but it never heads the main NegP in a sentence. I’ll write it just as *pas* in the specifier.
**French negation**

- This final movement ends up with the verb close enough to the tense suffix to satisfy the requirement that tense have a verbal host, while at the same time “taking ne along” to get us the right word order.
- Jean ne mange pas…

**Head Movement Constraint**

- This is an example which motivated the hypothesis that head movement is constrained by the Head Movement Constraint (or HMC) which says that when a head moves to another head, it cannot “skip” over a head inbetween. So, the reason the verb stops at Neg is because Neg is between where V began and I.
- Head Movement Constraint
  A head cannot move over another head.

**Colloquial French?**

- It turns out that the negation morpheme *ne* that we suppose is the head of the NegP projection is actually generally optional (or even preferentially omitted in colloquial French)—yet *pas* doesn’t act any differently (i.e. it doesn’t get “picked up” by the verb on the way up to I instead of *ne*).
- What this suggests is that colloquial French has a null morpheme which is the head of NegP—that *pas* is still in SpecNegP, but the head is Ø instead of *ne*.

**French negation**

- So, we see that assuming that *ne* is the head of NegP in French (with *pas* in the specifier), and assuming that the verb “stops off” to attach to Neg before moving (now as a part of the complex Neg head) up to I, we get the right word order.
- Note that, since *Jean mange pas ne des pommes* is ungrammatical, we also know that the verb has to stop off at Neg on the way up.

**Clarifying the HMC**

- Heads can only move to heads.
- The HMC says that a head cannot move past another eligible head to reach its destination.
- Specifiers don’t count as eligible (though they contain a head, to be sure).
- The bottom line is: Head movement adjoins a head X to the head of the phrase YP that has XP as its complement.

**English negation**

- A common view of English negation is actually an extension of this: Many researchers consider *not* to be in the specifier of NegP, with a null head.
- $[[IP \text{ John I } [\text{NegP not }\emptyset_{\text{Neg}} ] [VP \text{ is eating lunch}]]$}
- $[[IP \text{ John I } [\text{NegP not }\emptyset_{\text{Neg}} + i_{\emptyset}] [VP \text{ I eating lunch}]]$}
- $[[IP \text{ John } [i_{\emptyset} + \emptyset_{\text{Neg}}] [\emptyset_{\text{Neg}} not i_{VP} \text{ I eating lunch}]]$}
English negation

- \([ IP\ John[is_i+\neg_{NEG}]\NegP\ not\ t_i\ VP\ t_i\ eating\ lunch]]\]
- However, sometimes English negation does appear to be the head of NegP—when it’s “contracted” as \(-n’t.\)
- Isn’t Bill hungry?
- Cf. Is Bill not hungry?
- Notice that when the verb moved to I and then to C, it seems to have carried negation along.

The Italian DP

- In Italian, in many cases, there is simply an option (stylistically governed) as to whether you say The Gianni or just Gianni:
  - Gianni mi ha telefonato. Gianni me has telephoned ‘Gianni called me up.’
  - Il Gianni mi ha telefonato. the Gianni me has telephoned ‘Gianni called me up.’

The Italian DP

- However, there is a difference with respect to the order of adjectives and the noun depending on which one you use.
- L’ antica Roma the ancient Rome ‘Ancient Rome’
- *Antica Roma ancient Rome
- Roma antica Rome ancient

- E’venuto il vecchio Camerisi. came the older Cameresi
- *E’venuto vecchio Camerisi. came older Cameresi
- E’venuto Camerisi vecchio. came Camerisi older

Back to VSO

- Now, let’s return to the question of VSO order in languages like Irish (remember that?). Recall that we started off with the observation that there isn’t any way to “generate VSO order” at DS using X-bar rules because V and O are sisters at DS.
- However, now that we have verb movement at our disposal, we could certainly derive VSO like this:
- DS: Subject Verb Object
- SS: Verb, Subject Object

Irish

- In support of verb movement, consider:
  - Phóg Maire an lucharachán. kissed Mary the leprechaun
  - Tá Míre ag-pógáil an lucharachán. Is Mary ing-kiss the leprechaun
    ‘Mary is kissing the leprechaun.’
- We find that if an auxiliary occupies the verb slot at the beginning of the sentence, the main verb appears between the subject and verb—it remains, unmoved.
- This suggests that deriving VSO from SVO is on the right track.
VSO order in Irish

- Where is the verb moving to, though?
- The verb ends up to the left of the subject, which in English we took to be movement to C:
  - Will Bill buy cheese?

- A natural thing to suppose is that the verb moves to I and then to C in Irish to get VSO order.

VSO order in Irish

- Except, consider these:
  - An bhfaca tú an madra?
  - Duirt mé gur phog Máire an lucharacháin.
  - An bhfaca tú an madra?
  - Duirt mé gur phog Máire an lucharacháin.

- If the verb moves to C, where are an and gur?

VSO order in Irish

- In English (and German and other languages) if there is something in C, the verb doesn’t move there (it doesn’t need to):
  - Is Bill hungry?
  - Should Bill be hungry?
  - I wonder if Bill is hungry.

- But in Irish, we see an overt complementizer followed by VSO.

A VP-internal subject in Irish?

- One possibility that this suggests is that the verb is only moving to T, but the subject is actually lower than T—and we have a place in our tree which hasn’t been used yet, the specifier of VP.

- But what about English? We expect that DS looks pretty much the same across languages, so why does the subject seem to start in different places in Irish and English? We’ll return to this within a class or two.

Wrapup of head-movement

- So, what we’ve seen is basically that there is an operation of head movement which can take the head of an XP and attach it (head-adjoin) it to a higher head.

- This kind of movement cannot skip over intervening heads in the structure (HMC).

- We’ve seen V-to-I movement, I-to-C movement, and N-to-D movement as examples of this.

It is likely...

- Now, let’s think about the sentence It is likely that Mary left.

- Likely has one [q]-role to assign (Proposition) which it assigns to its complement, the embedded CP.

- Leave also has one [q]-role to assign, which it assigns to Mary.
It is likely…

- And, of course, since be is an auxiliary verb, it will move up to I.  
- Notice that both \( r \)-roles are assigned to things that are in the same clause as the predicate that assigns the \( r \)-role.  
- This is a general property of \( r \)-role assignment:  
  A \( r \)-role must be assigned locally (within the same clause).

It is likely…

- Great. But now, consider:  
  - Mary is likely [to leave].  
  - We already know a lot about this sentence; we know that *likely* has one \( r \)-role to assign, which it assigns to the embedded clause, we know that *leave* has one \( r \)-role to assign, which it assigns to *Mary*.  
  - There are two apparent problems here:  
    - The embedded clause seems to have no subject (*EPP*)  
    - The \( r \)-role assigned to *Mary* seems to be assigned outside of its clause.

It is likely…

- Mary is likely [to leave]

- Concerning \( r \)-roles, it’s clear from the meaning that *leave* really *does* assign its \( r \)-role to *Mary* and not *likely* (*Mary* is leaving—she’s isn’t in any way *likely*).
  - This is definitely not *local*—*Mary* is not in the same clause as *leave*.  

It is likely…

- Mary is likely [to leave]

- And with respect to the EPP, we see that although the main clause IP has something in its specifier (*Mary*), the embedded clause seems to have nothing.

- How can we reconcile this?

It is likely…

- Mary is likely [to leave]

- For \( r \)-role assignment to be local, *Mary* has to be in the same clause. \( r \)-role assignment takes place at the point of Merge, after which movement rules (like head-movement) apply.

- We can solve both problems at once by supposing that *Mary moves* from the embedded subject position to the main clause subject position.
  - Initially:  — is likely [Mary to leave]  
  - Becomes: *Mary* is likely [\( t_i \) to leave]

It is likely…

- That is, we start out (Merge, Merge) with *Mary* in the embedded clause, in the specifier of IP, receiving its \( r \)-role locally.
It is likely...

- That is, we start out (*Merge, Merge*) with *Mary* in the embedded clause, in the specifier of IP, receiving its []-role locally.
- Then, we continue up (*Merge, Merge, Merge, Move*), giving the embedded IP its []-role locally.

Then, we continue up (*Merge, Merge, Merge, Move*), giving the embedded IP its []-role locally.

Then, we continue up (*Merge, Merge, Merge, Move*), giving the embedded IP its []-role locally.

This satisfies the EPP in *both* clauses. The main clause has *Mary* in SpecIP. The embedded clause has the trace in SpecIP.

- This type of movement is called A-movement (“argument”).
- Also “DP-movement” or “NP-movement”
- This specific instance of A-movement, where we move a subject from an embedded clause to a higher clause is generally called subject raising.

It is likely...

- And in the last step, we *Move* the DP *Mary* up from the lower SpecIP to the higher SpecIP.
- This is essentially like *Merge* except that we are Merging together an object with (a copy of) something from inside the object.

Passive

- Now, let’s think about the passive. The passive morphology seems to directly affect the theta grid of a verb.
- *Bill ate the sandwich.*
- *The sandwich was eaten.*
- *Eat* has two []-roles to assign. By putting it in the passive, we seem to have transitive (two []-role) verb into an intransitive (one []-role) verb.

Passive

- Since optional thematic relations do not get included in the []-grid, what we conclude about the passive is that it changes the []-grid of the verb by removing the external []-role.

<table>
<thead>
<tr>
<th>eat</th>
<th>Agent</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[ ]</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>eat+en</th>
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</tr>
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<tbody>
<tr>
<td></td>
<td>[ ]</td>
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</tbody>
</table>
Passive

- Now, what does the structure of a passive sentence look like?
- There are two possibilities we could entertain.
  - The Theme in the passive becomes an external \(-\)-role (as opposed to in the active, where the Theme gets an internal \(-\)-role).
  - The Theme in both cases gets an internal \(-\)-role, but in the passive, it moves to the subject position.
- Let’s pursue the second option first…

Active

- Let’s start with the structure for the active sentence, Bill ate the sandwich.
- Here, the (internal) Theme \(-\)-role is assigned to the object DP and the (external) Agent \(-\)-role is assigned to the subject DP.
- Now, suppose that for the passive we simply eliminate the external \(-\)-role…

Passive

- The sandwich was eaten.
- Now, what needs to happen?
  - SpecIP must be filled (EPP).
  - The word order needs to be altered from was eaten the sandwich to the sandwich was eaten.
- It should be clear where this is going—here, we posit another instance of A-movement, like with raising. In the passive, the object moves to SpecIP satisfying the EPP.

Passive

- As for the optionally expressed Agent in the by-phrase, we take this to be like any optionally expressed adjoined phrase, a PP adjoined to VP.
- As expected, the by-phrase can be re-ordered with respect to other adjuncts.
  - The sandwich was eaten…
  - …by Bill under the tree at noon.
  - …under the tree by Bill at noon.
  - …at noon under the tree by Bill.
Passive

- Let’s return for a moment to the two possibilities we could have entertained…
  - The Theme in the passive becomes an external [\(\Box\)]-role (as opposed to in the active, where the Theme gets an internal [\(\Box\)]-role).
  - The Theme in both cases gets an internal [\(\Box\)]-role, but in the passive, it moves to the subject position.
  - We have worked out what the second option looks like, let’s take a second to see why the first option wouldn’t have worked.

Not the passive

- The first option hypothesizes that the passive form of the verb removes the external [\(\Box\)]-role and promotes the internal [\(\Box\)]-role to an external [\(\Box\)]-role:

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<td></td>
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</tbody>
</table>
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\[\text{eat}^{\text{en}}\]

- Under this view, then, the Theme is not moved into SpecIP but rather just starts out there.

Not the passive

- Consider this active sentence.
  - Wilma considers [Fred to be foolish].
  - And suppose we want to make a passive. We eliminate the external [\(\Box\)]-role from considers (meaning the role assigned to Wilma above). Then we make the internal [\(\Box\)]-role (assigned to the embedded proposition) external. What should the result be?

Not the passive

- The predicted result is:
  - “[Fred to be foolish] was considered.”
  - …which is not what we want. Rather, what we want is:
    - Fred was considered [to be foolish].
  - But notice, Fred was never assigned a [\(\Box\)]-role by considered (Fred’s [\(\Box\)]-role comes from foolish) so we couldn’t have changed the [\(\Box\)]-role Fred got to be external.

Passive

- Fred is considered [\(t_i\) to be foolish]
- However, the account of the passive that we developed before, where the object moves into SpecIP has no trouble explaining this. This is basically a case of subject raising, the EPP needs to be satisfied and is satisfied by moving Fred into the main clause’s SpecIP.

Nagging questions

- Things have been working out well so far, but there are a couple of things that are still unexplained…
  - If in the passive, movement of the object into subject position is done in order to satisfy the EPP, why couldn’t we instead insert it in SpecIP like we do in it rains or it is likely that…?
  - Similarly, for raising, what is wrong with "It is likely John to leave?"
  - The answer to this will be Case—which we will turn to next.
Case

- Case is tied to syntactic position; a subject (that is, the DP in SpecIP) gets one Case (nominative), the object (sister of a transitive V) gets a different Case (accusative).
- We formalize this idea that all nouns have abstract Case by making it a requirement—all nouns in a grammatical sentence must show their syntactic position.

Case vs. [ ]-roles

- It is important to notice that Case is not correlated with [ ]-roles.
  - I met him (at the airport).
  - He was met by me (at the airport).
- In both sentences, the Theme is the same—him. But in the first sentence, him is marked with accusative Case, and in the second sentence he is marked with nominative Case.

Case vs. [ ]-roles

- It is important to notice that Case is not correlated with [ ]-roles.
  - I met him (at the airport).
  - He was met by me (at the airport).
- Case has to do with where the DP ends up, and [ ]-roles have to do with where the DP starts out.

The “Case Filter”

- Case Filter
  - All DPs must have Case
  - (That is, all DPs have a Case feature, which must subsequently be checked)
- Case is available (roughly)
  - To the specifier of a finite I (nominative)
  - To the sister of a V or a P (accusative, oblique)

Conditions for Case checking

- The thing which makes the analysis run is the supposition that only under certain situations can I or V check Case. In particular:
  - For I, only finite I checks Nom—a nonfinite I (to) does not check (nominative) Case.
  - For V, only transitive verbs check Obj—intransitive verbs and passive verbs do not check Case.

Back to raising...

- Let’s go back to Mary is likely to leave. Recall that this is the underlying structure.
  - In the embedded clause, Mary is in SpecIP, but nonfinite I cannot assign Case.
- Unless the DP Mary moves, its Case feature will not be checked.
Back to raising…

- When the DP Mary moves up to the main clause SpecIP, its Nom Case feature can be checked.
- So, this movement does two things: It satisfies the EPP and it checks the Case of the subject.

Back to raising…

- Notice that this explains why…
  - *It is likely Mary to leave
  - …is ungrammatical, though: Even though the sentence satisfies the EPP, it violates the Case Filter (Mary doesn’t get its Case feature checked).

Back to raising…

- When the embedded clause is finite…
  - It is likely that she left.
  - …everything is fine because she gets (nominative) Case from the embedded finite I.

Back to passives…

- We had a similar question about what was wrong with:
  - *It was eaten the sandwich
  - …where it appears that even though the EPP could be satisfied by inserting the expletive it, the sentence is still ungrammatical.

Back to passives…

- What we can say here is that the addition of the passive morpheme -en to a transitive verb not only removes its external [\-]role, but also revokes its ability to check Case.
- Burzio’s Generalization
  A verb which does not assign an external [\-]role cannot check accusative Case.

Active again…

- Let’s review the underlying structure for the active sentence, Bill ate the sandwich.
- Here, eat assigns two [\-]roles, the internal [\-]role (Theme) to the DP the sandwich, and the external [\-]role (Agent) to the DP Bill.
- Since it assigns an external [\-]role, eat is also a Case-checker.
Active again...

- After movement, Bill checks (nominative) Case with the finite I, and the sandwich checks (accusative) Case with the V.

\[ \text{Finite I checks nom. Case} \]
\[ \text{V checks acc. Case} \]
\[ \text{The sandwich checks Case with V} \]

Passive again...

- The sandwich was eaten.
- Now, let’s look at the passive sentence.
- The external ↓-role was removed from eaten and thus V can no longer check Case (Burzio’s Generalization).
- Unless the DP the sandwich moves to a place where it can get Case, it will end up with a Case feature unchecked.

Passive again...

- By moving the DP the sandwich to SpecTP we satisfy both the Case checking requirements and the EPP.
- Simply satisfying the EPP by using it in SpecIP wouldn’t solve the problem of checking Case on the sandwich; hence the ungrammaticality of “It was eaten the sandwich.”