Week 11. Applied Syntax; Split-INFL.

Moving away from English

• Recall that the model of language we’re working with is one in which languages are for the most part the same, but differ in the settings of certain parameters, such as order between object and verb. What are possible parameter settings?

Moving away from English

• We’ve seen a couple, but the only way to discover what they are is to look at how other languages differ.
  – Recall, for example, the V-to-T parameter that differentiated French from English.

Japanese

• Taroo-ga ano hon-o kat-ta.
  Taro- NOM that book- ACC buy- PAST
  ‘Taro bought that book.’

• Taroo-ga ano hon-o kat-ta no?
  Taro- NOM that book- ACC buy- PAST Q
  ‘Did Taro buy that book?’

• Hanako-ga [Taroo-ga ano hon-o kat-ta to] omotteiru.
  H.- NOM T.- NOM that book- ACC buy- PAST that thinks
  ‘Hanako thinks that Taro bought that book.’

Japanese

• Japanese appears to be quite strictly head-final. The head of an XP comes after the complement.

• We can draw the structure of a Japanese tree like this, using the same system, only with head-final structures.

Japanese

• As in English, nominative case (ga) is assigned to the DP in the specifier of TP, accusative case (o) is assigned to the sister of V.

• Does the verb move to T? Tough question. Notice that it doesn’t have to to get the word order right.
Japanese

- Taro-ga ano hon-o kat-ta.
  Taro-NOM that book-ACC buy-PAST
  ‘Taro bought that book.’

- How might this come about?
  - The θ-criterion dictates that the object ano hon-o starts out as the sister of V. Like in What did I buy?

- The standard analysis of this is that scrambled arguments move to adjoin to TP—like quantifiers do. Same kind of movement as QR.

- So languages also differ in whether or not they allow scrambling.
  A large majority of the scrambling languages are also SOV languages, although why that would be remains unclear.

Korean

- Korean is in many respects structurally very similar to Japanese; strictly head-final, allows scrambling, has Case marking.

- Chelswu-ka ku chayk-ul ilk-ess-ta.
  Chelswu-NOM that book-ACC read-PAST-DECL
  ‘Chelswu read that book.’

- Chelswu-ka ku chayk-ul an-ilk-ess-ta.
  Chelswu-NOM that book-ACC NEG-read-PAST-DECL
  ‘Chelswu didn’t read that book.’

- Chelswu-ka ku chayk-ul ilk-ci anh-ess-ta.
  Chelswu-NOM that book-ACC read-ci NEG do-PAST-DECL
  ‘Chelswu didn’t read that book.’

- Korean negation

- Chelswu-ka ku chayk-ul ilk-ess-ta.
  Chelswu-NOM that book-ACC read-PAST-DECL
  ‘Chelswu read that book.’
Korean negation

- Chelswu-ka ku chayk-ul an-ilk-ess-ta.
  Chelswu-NOM that book-ACC NEG-read-PAST-DECL
  ‘Chelswu didn’t read that book.’

- If this is the DS for the Korean “short negation,” how do we get the right word order?

- We could head-move the verb up the tree to Neg.

- So what’s happening in “long negation”?

- Chelswu-ka ku chayk-ul ilk-ci anh-ess-ta.
  Chelswu-NOM that book-ACC read-CI NEG.do-PAST-DECL
  ‘Chelswu didn’t read that book.’

- Suppose that the DS is the same, except that we now have a special “nominalized” form of the verb (cf. reading, perhaps).

- Suppose that ilk-ci doesn’t move to Neg.

- See how we might analyze this?

At SS, we have a tense morpheme (-ess) which needs to attach to a verb.

But since ilk-ci didn’t move to an (and in fact probably doesn’t count as a verb anymore, but as a noun), there is no verb in the area.

Hence we insert do (in Korean, ha), which gets contracted as anh.

Actually, in more literary Korean it is also possible to find an uncontracted form that looks like …ilk-ci ani ha-ess-ta.

Just like English…

Dutch

- Let’s shift gears a bit and look at some Germanic languages. Like Dutch (this works for German too). What’s the word order? Is it head-initial? Head-final?

- Wim koopt het boek.
  Wim buys the book
  ‘Wim buys the book.’

- …dat Wim het boek koopt.
  …that Wim the book buys
  ‘…that Wim buys the book’
Dutch

• Dutch main clause sentences are not SVO…
• Dat boek kocht Wim gisteren.
  ‘That book bought Wim yesterday.’
• Gisteren kocht Wim dat boek.
  ‘Yesterday Wim bought that book.’
• …the are verb-second.

Dutch V2

• When there is an auxiliary, the auxiliary goes second, and the verb goes last.
• Gisteren heeft Karel dat boek gekocht
  ‘Yesterday Karel bought that book.’
• and when embedded, they both go at the end…
• …dat Karel gisteren dat boek gekocht heeft.
  ‘…that Karel bought that book yesterday.’

Dutch V2

• XP V S O …C S O V
• XP Aux S O V …C S O V Aux
• What’s happening here?
• Compare:
  Has Bill gone to the movies?
  I wonder if Bill has gone to the movies.

Dutch V2

• XP V S O …C S O V
• XP Aux S O V …C S O V Aux
• It appears that in main clauses the tensed verb moves to C; in embedded clauses it doesn’t.
• Like in English questions…

Dutch V2

• XP V S O …C S O V
• XP Aux S O V …C S O V Aux
• So, is Dutch head-initial or head-final?
• By now we should be able to tell what VP, TP, and CP look like.

Dutch V2

• Dutch appears to be head-final in VP and TP, but head-initial in CP.
• The (finite) verb moves from V to T and then to C in matrix clauses
• Then something moves into SpecCP. It could be the subject…
Dutch V2

- Dutch appears to be head-final in VP and TP, but head-initial in CP.
- The (finite) verb moves from V to T and then to C in matrix clauses.
- Then something moves into SpecCP. It could be the object...

V2

- So another parameter of variation between languages seems to be whether V moves to C and requires SpecCP to be filled ("V2").
- English has a little bit of what appears to be "residual V2" with negatives.
  - Never had I seen such a thing.
  - Under no circumstances will I buy that book.
  - There are complications with treating this like V2 in German and Dutch (can you think of them?) which will be addressed in Syntax II.

ECM vs. wh-movement

- We need this TP to be transparent for wh-movement—to not count as a Subjacency violation.
- Later developments (particularly in the Barriers framework, Chomsky 1986) take basically TP and CP together to be a bounding node (a barrier), but TP alone (with no CP above it) is not.

ECM vs. wh-movement

- Let’s go back to an issue that is left-over from an earlier discussion, concerning where you find TPs and CPs.
  - Mary wants me to leave.
  - But… consider
  - What, does Mary want me to buy $t_i$?
  - What’s the problem?

ECM vs. wh-movement

- $[\text{CP What, does } [\text{TP Mary want } [\text{TP me to buy } t_i]]]$?
VSO: Reminder about Irish

- Irish: VSO, Aux SVO.
  - Phóg Máire 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.’

- We might have also analyzed this as V-to-T-to-C (like German but without the filled SpecCP), but for…

VSO order in Irish

- There seem to be cases when C is filled and the order is still VSO—so the verb doesn’t move to C.
  - An bhfac a tú an madra?
  - Q See you the dog
  - ‘Did you see the dog?’

- Duirt mé gur phóg Máire an lucharachán.
  - Said I that kissed Mary the leprechaun
  - ‘I said that Mary kissed the leprechaun.’

VSO in Std. Arabic

- Standard Arabic seems to be VSO like Irish, but can provide clearer evidence for this idea that VSO has the subject in VP-internal position.
- Std. Arabic: Allows both VSO and SVO orders.
  - raʔa-a 1?-awlaad-u Zayd-an
    saw-3S the-boys-nom Zayd-acc
    ‘The boys saw Zayd.’ (VSO)
  - l-ʔawlaad-u raʔa-w Zayd-an
    the-boys-nom saw-3PL Zayd-acc
    ‘The boys saw Zayd.’ (SVO)

VSO in Std. Arabic

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  saw-3S the-boys-nom Zayd-acc
  ‘The boys saw Zayd.’ (VSO)
- l-ʔawlaad-u raʔa-w Zayd-an
  the-boys-nom saw-3PL Zayd-acc
  ‘The boys saw Zayd.’ (SVO)

- Notice that the verb agrees with the subject in the SVO order—in the VSO order the verb just carries 3sg agreement.
SVO/VSO order in Std. Arabic

- This serves as support for this analysis, since we only expect to find Spec-head agreement between functional heads and their specifiers, and T is so far where agreement has been assigned (e.g., in English).

Let’s go back to French…

- Jean mange souvent des pommes.
  - Jean eats often of. the 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 verbs to T.

French and a problem…

- Finite verbs (and auxiliaries) in French precede adverbs and precede negative pas—they must move to T.
- Now let’s look at infinitives…
  - N’être pas invité, c’est triste.
    - NE be not NEG invited, it’s sad
  - Ne pas être invité, c’est triste.
    - NE be not NEG 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 negation

- This happens with negation too—the finite verb move to the left of negation pas…
- Jean ne mange pas des pommes.
  - Jean NE eat NEG of. the apples
  - *Jean mange ne pas des pommes.
  - But fortunately or unfortunately, things are more complex than this…

French and a problem…

- +Fin aux: Adv V, neg V: Moves to T.
- +Fin verb: Adv V, neg V: 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 sad during one’s honeymoon, it’s rare
  - Apparaître souvent 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: Adv V, neg V: Moves to T.
• +Fin verb: Adv V, neg V: 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.
  ‘Not to seem happy is a prerequisite for writing novels.’
  – *Ne sembler pas heureux est une condition pour écrire des romans.
  ‘Not to seem happy is a prerequisite for writing novels.’
• Nonfinite main verbs can either not move past negation.

French and a problem…

• +Fin aux/verb: Adv V, neg V: 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)…

French and a problem…

• +Fin aux/verb: Adv V, neg V: 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??
• As the verb and the arguments make their way up the tree, there is a point where the verb and object are in a Spec-head configuration—in FP.
• This is how the verb checks its object agreement features when it has them.
• Based on this, FP is generally called AgrOP. Object agreement phrase.
AgrOP

- AgrOP, *Object agreement phrase*.
- Notice that as the verb moves up to T, it has to stop off in AgrOP (Head Movement Constraint requires it). So it is forming successively more complex heads.
  - V
  - AgrO+V
  - T+[AgrO+V]

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 domain” 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’. Obviously this is not an option. But, now…

ECM

- 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, AgrSP—i.e. everything except CP).
- *Her* and *himself* above act like they are in the higher clause with the matrix subject.

ECM

- 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. No X-bar problems.
So, why were we concerned about moving the embedded subject into the matrix clause?

The problem was that it needed to get Case.

But we seem to be finding it outside of the clause, we’re guessing, in SpecAgrOP.

Nominitive Case is assigned by T to its specifier, right?

So, what if AgrOP is really there to assign accusative Case?

All accusative objects move to SpecAgrOP (covertly in English) to “check” Case. They appear with a Case, but it needs to be verified by AgrO.

This is the standard interpretation of AgrOP.

Northern Irish

Modern Irish is VSO, but appears to be underlyingly SVO. Everything points to Irish being a head-initial language except…

Ba mhaith liom [Seán an abairt scriobh]
C good with. S.ACC the sentence.ACC PRT write ‘I want S to write the sentence.’

Ba mhaith liom [Seán fanacht]
C good with. S.ACC wait ‘I want S to wait.’

Morphology on the French verb

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…

AgrOP, Object agreement phrase.

AgrSP, Subject agreement phrase.

Pleasingly symmetrical!

Complex heads:
- V
- AgrO+V
- T+[AgrO+V]
- AgrS+[T+[AgrO+V]]

The assumption of this structure is sometimes referred to as the “Split-INFL” hypothesis; the INFLectional nodes have been “split” into subject agreement, tense, and object agreement.
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.

Split-INFL

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

PRO_\text{arb} giving Larson a look

- We know how to deal with transitive verbs and intransitive verbs (both unaccusative and unergative).
- But what about ditransitive verbs? There aren’t many, but:
  - John gave a book to Mary.
  - *John gave a book.
  - *John gave to Mary.

Ditransitive verbs

- We have a clear problem here.
  - Both arguments are required (so we shouldn’t expect either one to be an adjunct).
  - Both need to be inside the VP.
  - Structures cannot have ternary branches.

- Originally, both the direct and indirect object were just sisters to the verb, but with X-bar theory that analysis is no longer viable.

Larson (1988)

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

- This tells us something about the relationship between the direct and indirect object in the structure. (What?)
Larson (1988)

- The DO c-commands the IO. But how could we draw a tree like that?
- The most natural structure would be to make the IO an adjunct, like this, but that doesn’t meet the c-command requirements.

Idioms

- Often idiomatic meanings are associated with the verb+object complex (Marantz 1984)—the meaning derives both from the verb and the object. This is claimed to require a close DS relation (sisters).
  - 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.
  - Mary took Felix to task
  - Mary carries such behavior to extremes.

Where’s the V? Where’s the DO?

- Larson took this as evidence that the V is originally a sister to the IO, not the DO.
- Yet, we see that on the surface the DO comes between the verb and the IO.
- 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”—its contribution is to assign the θ-role to the subject. The lower verb assigns the θ-roles to the DO and the IO.
- ATB movement: What did [i Bill buy i] and [i Mary eat i]?
- Bill gave a book to Mary and a record to Sue.
- Bill gave, [i a book i to Mary] and [i a record i to Sue].

PRO_{arb} sending Bill a letter

- 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 i to Bill.
- How about *Mary sent Bill a letter*?

Double objects

- Larson proposes to look at the double-object construction as parallel to the passive. (This is pre-AgrP)
- The lower verb loses its ability to assign Case and its external θ-role (for the DO).
- The IO moves up to SpecVP, receiving Case from V_1 + V_2.
- The DO is an adjunct (like a by-phrase), Larson has a proposal about how it gets Case (from V').