Syntax – LIN331
Susana Bejar

Case and Checking (continued)

Today:

- Review our statements so far about Case
- Take a closer look at the evidence for AgrO
- Look at the question of whether we need EPP in addition to [NOM] checking
- Revisit the Case filter
- Revisit checking mechanisms

So far:

1) **Case filter**
   *NP if NP has phonetic content and has no Case (Chomsky 1981: 49)

- The Case filter accounted for the distribution of overt NPs.
  - — Positions where overt NPs are possible = Case positions
  - — Positions where overt NPs are not possible = Caseless

Case positions defined by feature-checking:

- Nominative checked by [NOM] feature on AgrS+T
  - — Typical instance of this is Case-checking for subject of a finite clause

- Accusative checked by [ACC] feature on AgrO of active/transitive vP
  - — Typical instance of this is Case-checking for object of a transitive verb

- Accusative or dative checked Case feature on Agr of transitive P
  - — Typical instance of this is Case-checking for object of a preposition

- Let's review some consequences:
  - When [NOM] is unavailable on AgrS+T
  - When [ACC] is unavailable on AgrO

- Unavailability of [NOM] or [ACC] results in unavailability of the corresponding subject or object position.
  - This is observable via **raising** phenomena

[ACC] unavailable

- Passive and Unaccusative lack AgrO therefore no [ACC] Case checking.
  - — Internal argument can't remain in object position
  - — must check higher Case. We observe **raising** to subject position, where [NOM] is available to license the DP.

2) Passive
   a. Leo saw Lina
   b. Lina was seen *t* (by Leo)
   c. *It was seen Lina (by Leo)

3) Unaccusative
   a. The bus arrived *t*
   b. *It arrived the bus

[NOM] unavailable

- Non-finite AgrS+T lacks [NOM]
  - — Subject of non-finite clause can't be licensed in its clause
  - — Can be 'rescued' by checking Case with higher position

4) Rescue by Case from complementizer/P
   a. Leo hopes [that Lina will visit].
   b. *Leo hopes [Lina to visit]
   c. Leo hopes [for Lina to visit]

5) Rescue by Case from complementizer/P
   a. *[Lina to visit] would be great
   b. [for Lina to visit] would be great

[NOM] unavailable

6) Rescue by [NOM] on matrix Agr+T
   a. It seems [that Leo likes pizza]
   b. *It seems [Leo to like pizza]
   c. Leo seems [*t* to like pizza]

— **raising to subject**

7) Rescue by [ACC] on matrix AgrO
   a. Franny believed [that Leo/he liked pizza]
   b. *Franny believed [he to like pizza]
   c. Franny believed [Leo/him to like pizza]

— **"raising" to object** (covert)

Raising to object

- Possible only with certain 'exceptional' matrix verbs like *believe*, **-- exceptional Case marking (ECM)** verbs

8) a. Franny believed Leo/him to be honest
   b. expected
   c. proved
9) a. *Franny tried Leo/him to be honest
   b. * pretended
   c. * suggested

- Evidence from passive that the [ACC] case of the matrix ECM verb is what licenses the subject of the non-finite clause
  - — If matrix ECM verb is passivized, AgrO is not available and the subject of the non-finite clause can no longer be licensed unless rescued by higher Case

10) a. Franny believed Leo/him to be honest
    b. expected
    c. proved
11) a. *It was believed Leo/him to be honest
    b. * expected
    c. * proven
12) a. Leo/he was believed to be honest
    b. expected
    c. proven

Homework 3 Q2 trees

(2) a. Hann telur [$_{TP}$ Jón hafa kysst Maríu].
he.NOM believes John.ACC to-have kissed Mary.ACC

b. *Hún reyndist [$_{CP}$ [$_{TP}$ Jón hafa kysst Maríu]].
she.NOM tried John.ACC to-have kissed Mary.ACC

(3) a. María var kysst (af Jóni).
Mary.NOM was kissed (by John)

b. *Það var kysst María /Maríu (af Jóni).
it.EXPL was kissed Mary.NOM ACC (by John)

(4) a. María er talið hafa kysst Jón.
Mary.NOM is believed to-have kissed John.ACC

b. *Það er talið María/ Maríu hafa kysst Jón.
it.EXPL is believed Mary.NOM Mary.ACC to-have kissed John

(intentionally blank)

(intentionally blank)

(intentionally blank)

AgrO: A closer look

- Evidence for a relation with AgrO?

- Take the following example:

  13) Franny entertained Kai during his vacation.

- Let's draw trees: GB case assignment by V vs. minimalism checking with AgrO

- GB

- What is the c-command relation b/w the object and the PP adjunct?

- Minimalism

- What is the c-command relation b/w the object and the PP adjunct?

Binding implications of AgrO

14) a. The kids entertained Franny during each other's vacations.
b. *The kids's mother entertained Mary during each other's vacations.

- Now take (15). Which of the two accounts of accusative case, the GB account or the AgrO account, makes the correct prediction?

15) Franny entertained the kids during each other's vacations.

- Only the AgrO account predicts a representation (at LF) where the object *the kids* c-commands the reciprocal anaphor.

- The same reasoning can be extended to ECM constructions:

16) ECM and binding

a. The DA proved [the defendants$_i$ to be guilty] during each other$_i$'s trials.

b. *Joan believes [him$_i$ to be a genius] even more fervently than Bob$_i$'s mother does.

c. The DA proved [none of the defendants to be guilty]during any of the trials.

a. The DA proved [the defendants$_i$ to be guilty] during each other$_i$'s trials.

b. *Joan believes [him$_i$ to be a genius] even more fervently than Bob$_i$'s mother does.

The DA proved [none of the defendants to be guilty]during any of the trials.

Conclusions about AgrO

EPP vs strong [NOM] Case: Spotlight on Expletives

- So far we have left open the question of whether we need both EPP and [NOM] to account for the requirement that subjects (in languages like English, but cf. A&A1998) must occur in the specifier of an Infl head.
- We'll now try to sort this out by zooming in on expletive patterns in English.

- Let's try to investigate the feature specification of English expletives, starting with the 'there' facts in (17).

17) a. [$_{TP}$ there$_i$ seems [$_{TP}$ t_i to be [$_{PP}$ a man in the room]]]
b. *[$_{TP}$ there$_i$ seems [$_{TP}$ t_i to be [$_{PP}$ many people in the room]]]
c. [$_{TP}$ there$_i$ seem [$_{TP}$ t_i to be [$_{PP}$ many people in the room]]]
d. *[$_{TP}$ there seem that [$_{TP}$ [many people]$_i$ are [$_{PP}$ t_i in the room]]]

Q: What do we observe? How might we analyze the pattern using feature-checking?

(17) a. [$_{TP}$ there$_i$ seems [$_{TP}$ t_i to be [$_{PP}$ a man in the room]]]

b. *[$_{TP}$ there$_i$ seems [$_{TP}$ t_i to be [$_{PP}$ many people in the room]]]

c. [$_{TP}$ there$_i$ seem [$_{TP}$ t_i to be [$_{PP}$ many people in the room]]]

d. *[$_{TP}$ there seem that [$_{TP}$ [many people]$_i$ are [$_{PP}$ t_i in the room]]]

- In (17a), *there* checks the EPP of both the matrix and embedded T. Q: Is the D-feature on there + or – interpretable?

(17) a. [$_{TP}$ there$_i$ seems [$_{TP}$ t_i to be [$_{PP}$ a man in the room]]]

b. *[$_{TP}$ there$_i$ seems [$_{TP}$ t_i to be [$_{PP}$ many people in the room]]]

c. [$_{TP}$ there$_i$ seem [$_{TP}$ t_i to be [$_{PP}$ many people in the room]]]

d. *[$_{TP}$ there seem that [$_{TP}$ [many people]$_i$ are [$_{PP}$ t_i in the room]]]

- Q: What checks the agreement features (i.e. **phi-features**) of matrix T in (17a)?

(17) a. [$_{TP}$ there$_i$ seems [$_{TP}$ t_i to be [$_{PP}$ a man in the room]]]

b. *[$_{TP}$ there$_i$ seems [$_{TP}$ t_i to be [$_{PP}$ many people in the room]]]

c. [$_{TP}$ there$_i$ seem [$_{TP}$ t_i to be [$_{PP}$ many people in the room]]]

d. *[$_{TP}$ there seem that [$_{TP}$ [many people]$_i$ are [$_{PP}$ t_i in the room]]]

- Q: What checks the agreement features (i.e. **phi-features**) of matrix T in (17a)? It can't be *there* because then one would expect (17b) to be fine. The facts in (17a-c) indicate that the **associate** of the expletive (*a* man) triggers agreement. So, *there* does not have phi-features.

18) **associate**: the nominal that would be expected to occupy subject position if there were no expletive

(17) a. [$_{TP}$ there$_i$ seems [$_{TP}$ t_i to be [$_{PP}$ a man in the room]]]

b. *[$_{TP}$ there$_i$ seems [$_{TP}$ t_i to be [$_{PP}$ many people in the room]]]

c. [$_{TP}$ there$_i$ seem [$_{TP}$ t_i to be [$_{PP}$ many people in the room]]]

d. *[$_{TP}$ there seem that [$_{TP}$ [many people]$_i$ are [$_{PP}$ t_i in the room]]]

- What about a case-feature?

(17) a. [$_{TP}$ there$_i$ seems [$_{TP}$ t_i to be [$_{PP}$ a man in the room]]]

b. *[$_{TP}$ there$_i$ seems [$_{TP}$ t_i to be [$_{PP}$ many people in the room]]]

c. [$_{TP}$ there$_i$ seem [$_{TP}$ t_i to be [$_{PP}$ many people in the room]]]

d. *[$_{TP}$ there seem that [$_{TP}$ [many people]$_i$ are [$_{PP}$ t_i in the room]]]

- What about a case-feature? *There* can't have a case-feature because if it did, one would expect (17d) to be OK. Keep in mind that "many people" with + interpretable phi-features could still check T's –interpretable phi-features. So, the problem has to be case, because its [–interpretable] case feature is already checked downstairs.

(17) a. [$_{TP}$ there$_i$ seems [$_{TP}$ t_i to be [$_{PP}$ a man in the room]]]

b. *[$_{TP}$ there$_i$ seems [$_{TP}$ t_i to be [$_{PP}$ many people in the room]]]

c. [$_{TP}$ there$_i$ seem [$_{TP}$ t_i to be [$_{PP}$ many people in the room]]]

d. *[$_{TP}$ there seem that [$_{TP}$ [many people]$_i$ are [$_{PP}$ t_i in the room]]]

You may note that the expletive ‘it’ would be perfectly fine in (17d), as shown in (19). What can we say about the features on 'it'?

19) [$_{TP}$ it seems that [$_{TP}$ [many people]$_i$ are [$_{PP}$ t_i in the room]]]

Conclusion:

- The expletive *there* only has the categorical D-feature
- The expletive *it* is fully specified with the categorical D-feature, but also Case and phi-features.

It follows that Case and EPP must be dissociated. Both are needed.

Back to feature-checking

- Let's review:

Q: What was the initial motivation for the introduction of checking within the Case system?

— If nominal elements enter the derivation with their case-features specified, this results in the correct realization at PF, and yet allows for **checking** of Case against the feature of a local head for licensing (by LF). This was part of the move to get rid of Surface-Structure in the minimalist architecture.

- We can use the checking mechanism to account for the contrasts in (17) and (18).

20) a. [she$_i$ [AgrS+T [was seen t$_i$]]]
b. *[her$_i$ [AgrS+T [was seen t$_i$]]]

21) a. * [John expects [she$_i$ [to [$_{vP}$ t$_i$ win]]]]
b. [John expects [her$_i$ [to [$_{vP}$ t$_i$ win]]]]

- Empirical advantage: It looks like the checking mechanism paves the way for a more consistent account of (19)

22) [Franny [$_{AgrO}$ [$_{vP}$ [$_{VP}$ entertained [the kids]] [$_{PP}$ during each other's vacations]]]]

- The checking mechanism was also used to account for cross-linguistic variation in word order without relying on X-bar parameters
  - — Word order differences accounted for by using the idea of feature strength, with strong features being 'indigestible' at PF.

23) a. *French*

Jean bois souvent du vin.

Jean drinks often of wine

'Jean often drinks wine.'

b. John often drinks wine.

24) a. What did Bill buy?

b. *Mandarin Chinese*

Bill mai-le shenme?

Bill buy-ASP what 'What did Bill buy?'

Minimalist questions about feature-checking

- Why does checking exist at all? If the DPs come in the derivation with their case, why do they need to get them checked?

  — Minimalist answer: **interpretability** at the LF,PF interfaces

    - Phonological features are interpretible at PF, but not LF.
    - Semantic features are interpretable at LF, but not PF.
    - What about Formal Features (FFs)?
      - Proposal: **FFs can be either interpretable or uninterpretible. Uninterpretable features must be deleted by feature-checking by LF** [See Appendix]

(Left blank on purpose)

- Why is movement sometimes overt and sometimes covert? What would go wrong if verb movement was overt in English or wh-movement in Chinese?

25) **Procrastinate** covert movement is more "economical" than overt movement.

— The effect of this is that overt movement won't apply unless it is forced (by strong feature)

- A worry: is this a brute force explanation?
- Does it essentially recreate S-Structure?

- Another worry: Why do covert and overt movement seem to be fundamentally different?
    - — overt movement is **cyclic**, meaning operations are ordered in paralleland to structure building.
    - — overt movement obeys a principle known as the **extension condition** which says that operations must target the "root" of the structure (NB: here "root" means the highest node)
    - — covert movement is counter-cyclic and does not obey the extension condition.
    - — given these differences, one might challenge the uniformity of syntax before and after spellout.

26) **Extension Condition** Overt applications of Merge can only target root syntactic objects.

Alternatives

Let's consider an approach that may circumvent the Procrastinate and cyclicity problems: **Move F**

Move F

Q: What triggers movement operations in the first place?

If the deletion of [-interpretable] formal features is the only trigger for movement, then minimalist considerations should lead us to expect movement to operate just with formal features (FFs), rather than whole lexical/phrasal categories.

In other words, under this view, covert movement is the optimal movement. It is the properties of the phonological component that may require more material to pied-pipe along with the formal features in what we call overt movement.

Let's study the logic with the example of **existential sentences** in English. Consider (24).

- Here, the contrast between (24) and (25) can be explained if we take the formal features moving alone, thus allowing for the embedded reading of the anaphor only.

27) a. [[many students]$_i$ seemed to each other [t_i to have been in trouble]]

b. *[there$_i$ seemed to each other [t_i to have been many students in trouble]]

28) *[there$_i$ FF(*many students*)+I^0 seemed to each other [t_i to have been many students in trouble]]

- Q: How does Move F fare with Procrastinate?
- Under Move F, all movement is 'overt' with the choice of whether only formal features move or whether more (and how much more) is needed determined by the presence or absence of a strong feature coupled with economy considerations that basically say moving less material is better than moving more.
- Example: Take the case of wh-movement illustrated schematically in (36).

29) a. *[$_{CP}$ FF([*wh*-constituent])+Q**strong** [$_{TP}$ … [*wh*-constituent] …]]
b. [$_{CP}$ [*wh*-constituent] Q**strong** [$_{TP}$ … [*wh*-constituent] …]]
c. [$_{CP}$ FF([*wh*-constituent])+Q [$_{TP}$ … [*wh*-constituent] …]]
d. *[$_{CP}$ [*wh*-constituent] Q [$_{TP}$ … [*wh*-constituent] …]]

- (29a) is ruled out because strong features cannot be checked by moving formal features only, leading to (29b) (e.g. English). (29d) is ruled out because in the absence of a strong feature,

economy considerations dictate that only formal features should move, leading to (29c) (e.g. Chinese).

- Note: The Move F approach also avoids the problem of the Extension Condition referring to 'overt' movement. Extension condition can now simply refer to any movement or in fact any type of merge, as reformulated in (30).

30) *Extension Condition* (final version)
Applications of Merge can only target root syntactic objects.

Appendix: Feature Interpretability

Recall that minimalism explores the idea that language is an optimal response to the requirements of the articulatory-perceptual (A-P) and conceptual-intentional (C-I) components, i.e. the legibility conditions. So, one way to address the issue of movement is to tie it to lexical features and their legibility at the two interfaces PF and LF.

- Phonological features are readable at PF, but not LF.
- Semantic features are readable at LF, but not PF.
- Let us give spell-out the role of teasing apart the two types of features.

Q: What do lexical items consist of?

- Phonological features
- semantic features
- formal (syntactic) features.

Q: Can PF handle formal features?

- Will set this aside for a moment

Q: Can LF handle formal features?

- This is a more complicated question! Consider agreement within the noun phrase in (1) and subject-verb agreement in (2).
- It is obvious that the information conveyed by gender, number and person features is necessary at LF for interpretation, but do we need them multiple times?

1) Portuguese

a. **o** gat**o** bonit**o**
the.MASC.SG cat.MASC.SG beautiful.MASC.SG
'the beautiful tomcat'

b. **a** gat**a** bonit**a**
the.FEM.SG cat.FEM.SG beautiful.FEM.SG
'the beautiful cat'

c. **os** gat**os** bonit**os**
the.MASC.PL cat.MASC.PL beautiful.MASC.PL
'the beautiful tomcats'

d. **as** gat**as** bonit**as**
the.FEM.PL cat.FEM.PL beautiful.FEM.PL
'the beautiful cats'

2) she$_{[3.SG]}$ is$_{[3.SG]}$ nice

- Well, we can then assume that only one piece of relevant info is interpretable at LF.
- We call these different features [+interpretable] and [-interpretable].
  - — **Proposal:** the [-interpretable] features must be eliminated before they reach the interfaces.

— One view is to take movement to be a response to the existence of [-interpretable] features. In other words, things move to check [-interpretable] features. (This still leaves us with the question of why we have [-interpretable] features at all.)

— **Conclusion:** Things move if and only if they will eliminate [-interpretable] features. This is stated formally in the **Last Resort**:

3) **Last Resort:** A movement operation is licensed only if it allows the elimination of [–interpretable] formal features.

Q: Which features are [+interpretable] and which are [-interpretable]?

Let's take phi-features that are checked in agreement (person, number, gender, etc). What agrees with what, the subject with the predicate or the other way around? What can you conclude?

The derivation of the simple sentence in (4) is given is (5).

4) Franny knows Hassan.

5) a. $[_{AgrS}$ -s$_{\{\varphi-\}}$ $[_{vP}$ Franny$_{\{\varphi+\}}$ [know- Hassan]]]
b. $[_{AgrS}$ Franny$_{\{\varphi+\}}$ $[_{AgrS}$ -s$_{\{\varphi+\}}$ $[_{vP}$ t [know- Hassan]]]]

Q: What about case-features? What kind of interpretation does structural case receive at LF?

Let's take the case of nominative case checking in (4) or (5b).

4) Franny knows Hassan.

5) a. $[_{AgrS}$ -s$_{\{\varphi-\}}$ $[_{vP}$ Franny$_{\{\varphi+\}}$ [know- Hassan]]]

b. $[_{AgrS}$ Franny$_{\{\varphi+\}}$ $[_{AgrS}$ -s$_{\{\varphi+\}}$ $[_{vP}$ t [know- Hassan]]]]

We know that at least one of the case-features on 'Franny' or AgrS+T has to be [-interpretable]. The question is which one?

To answer this, consider which type of feature gets deleted: [+interpretable] or [-interpretable]? Why

Answer:

If a [+interpretable] feature does not get deleted after checking, then the expectation is that it can participate in multiple checking relations. Is that really the case?

Well, it looks like that's the case, as shown in the raising construction in (6).

6) Portuguese

As alun**as** parece**m** ter sido contratad**as**.

the.FEM.PL student.FEM.PL seem.3.PL have been hired.FEM.PL

'The (female) students seem to have been hired.'

Note: If the motivation for the movement of subject to Infl is to check the EPP, which was reinterpreted as a strong D/N-feature on AgrS, then the relevant feature on the subject DP has to be [+interpretable] too, because as we see it is involved in checking twice in (6).

Alright, let's return to the question of the interpretability of the feature case.

1. Assigner: The contrast in (7) shows that AgrO cannot check accusative case twice (thus the ungrammatical (7b)) and therefore the Case-feature on the case assigner has to be [-interpretable].

7) a. Mary gave a book to John.
b. *Mary gave a book John.

2. Assignee: The contrast between (8) and (9) shows that the Case-feature on the assignee has to be [-interpretable] too, because otherwise, we would expect the sentence in (9) to be fine. *Franny* can check the EPP-feature of both the matrix and embedded T in (8), so there is no reason why it shouldn't do the same for (9). We saw similar above for phi-features, which leaves us with the only way to rule out (16) and that's through case.

8) a. Franny seems to know Hassan.

b. [$_{TP}$ Franny$_i$ [$_{T'}$ -s [$_{VP}$ seem- [$_{TP}$ t_i to [t_i know Hassan]]]]]

9) a. *Franny seems that knows Hassan.

b. *[$_{TP}$ Franny$_i$ [$_{T'}$ -s [$_{VP}$ seem- [$_{CP}$ that [$_{TP}$ t_i -s [t_i know Hassan]]]]]]

Summary: the presence of [-interpretable] formal features is the departure from optimality and movement is the response to it.

Note: It should be noted that deletion of a feature makes the feature invisible at the LF interface but at PF we need to say these features can be manipulated in morphology and phonology (e.g. agreement morphology in Infl) so deletion is a diacritic that LF but not PF must be sensitive to.