Hyper-ECM and Hyperagreement in Telugu

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Two types of cross-clausal A-dependencies

- (Exceptional) Case assignment
- (Long distance) Agreement

- Are these two sides of the same coin?
  - Evidence from Telugu suggests that these two operations are sensitive to different factors.

ECM and LDA in Telugu

- Telugu has both ECM and Long distance agreement in the presence of *ani*, which is typically thought of as a complementizer.

  (1) nenu vaaḍi-(ni) pičči-vaaḍu ani bhavinčæænu
      1SG 3MS-ACC mad-one ANI thought.1SG
      'I considered him mad'

  (2) naaku [nuvvu manči-vaaḍi-vi ani] anipinc-aavu
      1SG.DAT 2SG good-one-2SG ANI feel-2SG
      ≈ 'I felt that you are a good guy'

A syntactic difference

- ECM is ungrammatical when embedded tense is overt.

    (3) nenu vaaḍu-(*ni) pičči-vaaḍu avu-taa-ḍu ani bhavinčǽænu
          1SG 3MS-ACC   mad-one   be-FUT-3MS ANI thought.1SG
          'I thought he would become mad'

- LDA is still possible but optional when embedded tense is overt.

    (4) naaku [nuvvu manči-vaaḍi-vi avu-taa-vu   ani] anipinc-{aavu/indi}
          1SG.DAT 2SG   good-one-2SG become-FUT-2SG ANI feel-2SG/3NS
          ≈ 'I felt that you'd become a good guy'

Preview of the analysis

- Both ECM and LDA are sensitive to a CP phase boundary.
    - *ani* is a verbal complementizer and is not a phase.

- ECMed NPs move into the matrix clause. The target of LDA probes does not.
    - This movement is resticted by something akin to the Williams Cycle.
    - ECM shows Williams Cycle effects while LDA only shows phase effects.

A quick detour: Prolepsis

- Are the structures in question actually prolepsis?
- Telugu does seem to have something like prolepsis where an NP is introduced in the matrix clause with the postposition.

  (5) akhil tana-gurinči [tanu picci-vaaḍu ani] bhaavinč-ææ-ḍu
      akhil 3sg-ABOUT 3sg mad-3ms ANI consider-PST-3ms
      'Akhil thought of himself that he was mad'

- However, the proleptic object here cannot be marked accusative

  (6) * akhil tana-ni [tanu picci-vaaḍu ani] bhaavinč-ææ-ḍu
       akhil 3sg-ACC 3sg mad-3ms ANI consider-PST-3ms
       'Akhil thought of himself that he was mad'

Prolepsis vs. ECM

- Prolepsis has a much wider distribution than ECM and does not care about the overtness of tense morphology.

  (7)   akhil sameer-gurinči [tanu annam tinn-aa-ḍu   ani] bhaavinč-ææ-ḍu
          akhil sameer-ABOUT 3SG rice   eat-PST-3MS ANI consider-PST-3MS
          'Akhil thought of Sameer that he ate rice'

  (8)   akhil tana-gurinči [tanu picci-vaaḍu avu-taa-ḍu ani] bhaavinč-ææ-ḍu
          akhil 3SG-ABOUT   3SG mad-3MS be-FUT-3MS ANI consider-PST-3MS
          'Akhil thought of himself that he would become mad'

- The proleptic object in the matrix clause can be co-referent with non-subjects in the embedded clause. ECM on the other hand can only target the highest subject.

  (9)   akhil sameer-gurinči [tana   tanḍri picci-vaaḍu ani] bhaavinč-ææ-ḍu
          akhil sameer-ABOUT 3SG.GEN father mad-3MS   ANI consider-PST-3MS
          'Akhil thought of Sameer that his father was mad'

  (10) * akhil tana-ni [__ tanḍri picci-vaaḍu ani] bhaavinč-ææ-ḍu
          akhil 3SG-ACC __ father mad-3MS ANI consider-PST-3MS
          'Akhil thought his father was mad'

ECM: wh-scope

- ECMed NPs only allow for matrix question interpretation.

(11) nuvvu evari-ni picci-vaaru ani bhaavinčæævu?
2SG WHO-ACC mad-3PL ANI thought.2SG
Whom did you consider mad?
*You thought "Who's crazy?"

(12) nuvvu evaru picci-vaaru ani bhaavinčæævu
2SG WHO.NOM mad-3PL ANI thought.2SG
Whom did you think mad? (or)
You thought " Who's crazy?"

ECM: Adverbs

- ECMed NPs are higher than matrix adverbials. In this example the ACC subject appears to the left (i.e., higher than) the adverbial *manasaara*, which modifies the matrix predicate.

  (13) nenu vaaḍi-ni manasaara   pičči-vaaḍ-ani bhaavinčæænu
        1SG 3MS-ACC wholehearetdly mad-one-ANI thought.1SG
        'I considered him mad with all my heart'

ECM: Agreement shift

- Telugu allows for embedded *tanu* to control first person agreement on embedded probes (so-called monstrous or shifted agreement). However ECMed *tanu* cannot control shifted agreement.

  (14)   Akhil tanu manci-vaaḍi-ni ani bhaavinc-ææ-ḍu
         Akhil 3SG good-3SG-1SG ANI consider-PAST-M.SG
         'Akhil thought himself a good chap.'

  (15)   Akhil tana-ni manci-vaaḍi-(*ni) ani bhaavinc-ææ-ḍu
         Akhil 3SG-ACC good-3SG-(*1SG) ANI consider-PAST-M.SG
         'Akhil thought himself a good chap.'

- Like indexical shift (Anand & Nevins, 2004; Anand, 2006; Shklovsky & Sudo, 2014), shifted agreement is tied to an operator in the left periphery (Messick, 2021). In the ECM case, *tanu*, has moved out of the scope of the operator, blocking shifted agreement.

ECM: Complex Reflexives

- Telugu has a reduplicated complex reflexive that must be bound within its clause (Subbarao & Murthy, 2000; Messick & Raghotham, 2021). This reflexive is possible when the embedded subject is marked accusative, but is not possible if the embedded subject is nominative.

  (16) Akhil tana-ni tanu manci-vaaḍu ani bhaavinc-ææ-ḍu
  Akhil 3SG-ACC 3SG good-3SG ANI consider-PAST-3MSG
  'Akhil thought himself a good chap.'

  (17) *Akhil tanu tanu manci-vaaḍu ani bhaavinc-ææ-ḍu
  Akhil 3SG 3SG good-3SG ANI consider-PAST-M.SG
  'Akhil thought himself a good chap.'

- This again suggests that the accusative marked subject is in the matrix clause while the nominative marked subject stays in the embedded clause.

- NPIs marked with ACC can only be licensed by matrix and not embedded negation.

  (18) nenu okka-ri-(*nii)   pičči-vaaru kaad-ani bhaavincæænu
        1SG   one-HUM-ACC.EVEN mad-ones NEG-ANI thought.1SG
        ≈ I thought that even one person is not mad

- As mentioned in the introduction, ECM is only possible with copular clauses with non-overt tense morphology. It is ungrammatical in other types of clauses.

(19) nenu vaaḍu-(*ni) paḍḍæǣḍu ani bhavinčǣǣnu
1SG 3MS-ACC fell ANI thought.1SG
'I thought he fell'

(20) nenu vaaḍu-(*ni) pičči-vaaḍu avu-taa-ḍu ani bhavinčǣǣnu
1SG 3MS-ACC mad-one be-FUT-3MS ANI thought.1SG
'I thought he would become mad'

ECM analysis: Case assignment

- Telugu displays a pattern of differential object marking (DOM) for accusative marking. Only human and specific objects are marked accusative. Other objects are left bare.

  (21) neenu dosa-nu tinn-aa-nu
       1SG   dosa-ACC eat-PST-1SG
       'I ate the dosa.'

  (22) neenu dosa tinn-aa-nu
       1SG   dosa eat-PST-1SG
       'I ate a dosa.'

- Unlike some DOM languages, Telugu cannot coordinate bare and ACC marked objects, suggesting that DOM marked objects undergo movement to a higher position in the structure.

  (23) * neenu iḍli-luu   dosa-la-nuu   paḍeesæænu
          1SG   idli-PL.CONJ dosa-PL-ACC.CONJ throw.PERF.1SG
          Intended: 'I threw away idlis and the dosas.'

ECM analysis: Case assignment

- Accusative case is only assigned to an object in the presence of a higher unmarked/nominative NP. Accusative cannot be assigned to an object in the presence of a dative marked subject. Objects instead must surface as unmarked/nominative (see Baker, 2015, 194-197 for references and discussion of this type of restriction in other languages).

  (24) Rani-ki Ravi-(*ni) ištam-leedu
      Rani-DAT Ravi-(*ACC) like-NEG.3SG
      'Rani does not like Ravi.'

- Following a dependent approach to case assignment, we assume that accusative case is assigned via the rule below.

  (25) If NP_1 is c-commanded by NP_2 in TP then assign ACCUSATIVE to NP_1.

ECM analysis: *ani* as verbal

- The next ingredient to our analysis is the treatment of the element *ani*.
- This item is often glossed as a complementizer, however recently it has been argued that it is better teated as a verb.   Balusu (2020)

- Balusu (2020) gives a number of reasons for thinking this. For example *ani* can introduce manner adverbials and when it does, it can occur with aspectual morphology.

   (26) 'grr' an-i   aagindi
            QC-PERF stopped
       'It stopped with a 'grr'.'

   (27) 'grr' an-ṭuu   aagindi
            QC-PROG stopped
       'It stopped with a 'grr'.'   Balusu 2020, ex. 10-11

ECM analysis: *ani* as verbal

- *ani* can also introduce nouns in naming constructions.

  (28) ravi an-ee vyakti
  Ravi QC-REL.NON.PST person
  'A person called Ravi.' Balusu 2020, ex. 14

- As the glosing above indicates, *ani* can also take verbal suffixes:

  (29) vaadu tinnaaḍu an-aa nuvvu čeppindi?
 3MS ate QC-Q 2SG said
  ≈ 'Was it he ate that you said?'

- For these reasons Balusu (2020) treats *ani* not as a complementizer, but as a verb that may take many different types and sizes of complements.

  (30) [... [$_{VP_{mtrx}}$ [$_{vP_{ani}}$ [$_{VP}$ [$_{CP/TP/vP}$ ...] ani] v_{ani}] V$_{mtrx}$] ...]

- For similar verbal analyses of putative complementizers, see Major (2021) and Driemel & Kouneli (2021)

ECM analysis: Desiderata

- We assume that the embedded subject moves into a specifier of *v*P, where it receives accusative case. (Lasnik & Saito, 1991, *et seq*)

$$[_{vP} \text{ NP-ACC} \ldots [_{v_{ani}P} \underline{\quad\quad} \ldots [_{PredP} \underline{\quad\quad} \ldots] \ldots] \ldots]$$
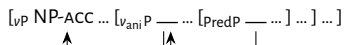
- We need to capture the fact that the presence of a Tense node blocks movement to Spec*v*P of the matrix clause.

- A phase-based analysis is insufficient because of the LDA facts: As we will shortly see, the presence of a tense node does not block LDA but a C-node does.

- If the presence of T entailed the presence of C, we lose explanatory footing.

- What we instead need is a theory that makes locality distinctions finer than phases.

ECM analysis: The Williams Cycle

- Williams' Cycle: (Williams, 2003)
  Given a functional sequence, (cross-clausal) movement from a higher phrase to a lower phrase
  in the functional sequence is prohibited.

- We adopt the following formulation of the general idea:

  (31) If a category label X is a horizon for movement to Y, then no node dominated by XP can
        move to a projection of Y.   based on Keine (2019, ex. 38)

- Assuming that T is a horizon for movement-to-v, the constraint in (31) blocks any movement
  step that crosses a T node (or higher) to land in a projection of v.

$$[_{vP} \text{ NP-ACC} \dots [_{v_{ani}P} \text{ ——} \dots [_{TP} \dots [_{PredP} \text{ ——} \dots] \dots] \dots] \dots]$$
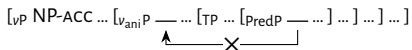
Similarities with Japanese?

- The ECM facts of Japanese are quite similar to that of Telugu:

  (32) ECM is optional   Kawai 2006, ex. 1

       a. Kanojo-wa [sono otoko-ga sagishi da to] shinjiteiru
          she-TOP   the man-NOM swindler is QUOT believes
          'She believes that the man is a swindler'

       b. Kanojo-wa [sono otoko-o sagishi da to] shinjiteiru
          she-TOP   the man-ACC swindler is QUOT believes
          'She believes that the man is a swindler'

  (33) Tensed complements block ECM   Kawai 2006, ex. 4

       a. Kanojo-wa sono otoko-o [sagishi da$_{[-PAST]}$ to] shinjiteiru
          she-TOP   that man-ACC swindler is   QUOT believes
          'She believes the man to be a swindler'

       b. *? Kanojo-wa sono otoko-o [sagishi datta$_{[+PAST]}$ to] shinjiteiru
          she-TOP   that man-ACC swindler was   QUOT believes
          'She believes the man to be a swindler'

- Kawai (2006) treats the particle *to*, usually taken to be a complementizer, as simply a quotative element.
- Even though *to* is treated here as an adjunct, the important point here is the fact that there is no C in the examples above.   (see also Shimamura (2018))

Long-distance agreement: The goal does not move

- Unlike the ECMed NPs, the goal of a LDA probe does not appear to need to be in the matrix clause.
- A matrix adverb cannot follow the embedded subject that is agreed with and still receive a matrix interpretation:

  (34) naaku (manasaara) nuvvu (*manasaara) manči-vaaḍi-vi ani anipinc-{aavu/indi}
        1SG.DAT wholheartedly 2SG   wholheartedly good-one-2SG ANI feel-2SG/3NS
        ≈ 'I wholeheartedly felt that you'd become a good guy'

- An embedded adverb like *yesterday* can precede the embedded subject, and the latter can still be agreed with.

  (35) naaku ninna   nuvvu manči-vaaḍi-vi ani anipinc-{aavu/indi}
        1SG.DAT yesterday 2SG   good-one-2SG ANI feel-2SG/3NS
        ≈ 'I felt that you became a good guy yesterday'

- An NPI licensed by embedded negation can still be agreed with by the matrix probe.

  (36) naaku [evar-uu manči-vaaru avvaru   ani] anipinc-{ææru/indi}
        1SG.DAT who-NPI good-3PL BE.FUT.NEG ANI feel-3NS/3PL
   'I felt that no one would become a good person'

Long-distance agreement: CP phase

- When CP is projected in the embedded clause, LDA is blocked. The morpheme *-aa* is an embedded question C. When C is present in the structure, only default agreement is possible.

  (37) naaku   [nuvvu manči-vaaḍi-vi avu-taa-v-aa   ani] anipinc-{indi/*aavu}
        1SG.DAT 2SG   good-one-2SG become-FUT-2SG-Q ANI feel-3NS/2SG
        'I wondered if you'd become a good guy'

LDA analysis

- Since goals of LDA probes do not need to move into the matrix clause, we do not expect to see Williams Cycle effects: specifically, the presence of T shouldn't block agreement.

$$[_{TP} \ldots [_{v_{ani}P} \ldots [_{vP/TP} \text{Sub}_{emb} \ldots] \ldots] \text{ T }]$$
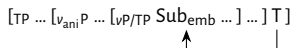
- Agreement is still a phase bound operation however, so the projection of a CP phase will block LDA.

$$[_{TP} \ldots [_{v_{ani}P} \ldots [_{CP} [\text{Sub}_{emb} \ldots] \text{ C}] \ldots] \text{ T }]$$
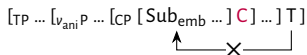
- Surface optionality in agreement can now be chalked down to structural ambiguity: unlike the Q-particle, the C of assertions is null.
- When there is no C, the matrix probe always agrees with the embedded goal, and when there is, the phase boundary blocks agreement.

Conclusions & Upshots

- We gave analysis of apparent hyper-ECM and hyper-agreement in Telugu.
- We demonstrated that ECM is blocked by the presence of overt tense in the embedded clause, but agreement is still possible (but is now optional).

- The analysis was based on the following components:
  - Following Balusu (2020), *ani* in Telugu is not of the category C, but is a verbal projection.
  - ECM NPs move into the matrix clause while goals of hyper agreement stay low.
  - Movement is more constrained than agree. Movement is constrained by phases and something like the Williams Cycle. Agree only constrained by phases.

- While focused mostly on Telugu, we hope our investigation helps shed light on the study of these phenomenon cross-linguistically.
  - This analysis may have direct application in other languages like Japanese.
  - If our assumptions about verbal 'complementizers' are correct, we may see apparent hyper-ECM and hyperagreement more readily in languages that use such 'complementizers'.
  - If our assumptions about move and agree are correct, then we might expect ECM to be more restricted than hyperagreement cross-linguistically.

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