# Privativity and Number Features

## The view from Telugu

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# φ-features: Privative or Binary?

- Given a feature [F], can we explicitly refer to its negation [−F]?
  - No                                                    Harley & Ritter 2002, *et seq.*,
  - Yes                                                              Harbour 2011, 2013

- Whether or not bivalence is attested in morphology, some recent arguments suggest that syntactic processes only make use of privative features:          Preminger (2017, 2019)
  - Failed agreement always results in [3SG] exponence
  - No omnivorous number effects for [SG]
  - PCC effects can be captured using only privative features

☛ Today, I will provide evidence from Telugu copular agreement that there are in fact syntactic processes that look specifically for [SG]

# Telugu Copular Agreement

- Non-verbal predicates in Telugu agree with their subjects

  (1) nuvvu picci-vaaḍi-**vi**
      2SG    mad-3MS-2SG
      'You are mad/a mad man'

  (2) nuvvu adhyaapakuḍi-**vi**
      2SG    teacher-2SG
      'You are a teacher'

- The agreement marker in (1–2) is not the regular T-agreement

  (3) nenu picci-vaaḍi-**ni** avu-taa-**nu**
      1S   mad-3MS-**1S**  be-FUT-**1S**
      'I will become mad/a mad man'

(4) *Copular agreement paradigm*:

|       | [#:SG] | [#:PL] |
|-------|--------|--------|
| [π:1] | -ni    | -mu    |
| [π:2] | -vu    | ∅      |
| [π:3] | ∅      | ∅      |

(5) *Verbal agreement paradigm*:

|       | [#:SG]   | [#:PL]   |
|-------|----------|----------|
| [π:1] | -nu      | -mu      |
| [π:2] | -vu      | -ru      |
| [π:3] | -ḍu, -di | -ru, -yi |

# Hierarchy Effects

- Copular agreement displays hierarchy effects:

  (6) Context: Actors discussing their roles in a play.

      a. nenu picci-vaaLLa-**nu**
         1SG  mad-3PL-**1SG**

         'I am the mad people'                                    1SG > 3PL

      b. * memu picci-vaaDi-(mi)
         1PL   mad-3MS-(1PL)

         'We are the mad-person'                                  * 1PL > 3SG

- Regular T-agreement, on the other hand, is well-behaved:
  - agrees with the subject as long as the latter is NOM
  - if the subject is non-nominative, a nominative object controls agreement
  - if there are no nominative arguments, a default value is inserted

# Hierarchy Effects: Number

- Copular agreement displays hierarchy effects:

    (7) Context: Actors discussing their roles in a play.

    a. nenu picci-vaaLLa-nu
       1SG    mad-3PL-1SG
       'I am the mad people'                                    `1SG > 3PL`

    b. * memu picci-vaaDi-(mi)
         1PL       mad-3MS-(1PL)

       'We are the mad-person'                                  `* 1PL > 3SG`

| SUB > PRED | ✗/✓ | SUB > PRED | ✗/✓ |
|---|---|---|---|
| 1SG > PL | ✓ | 1PL > SG | ✗ |
| 2SG > PL | ✓ | 2PL > SG | ✗ |
| 3SG > PL | ✗ | 3PL > SG | ✗ |
| 3SG.HON > PL | ✓ | | |

Table: Number mismatches; 3rd person predicate

- Number hierarchy effects: [SG] > [PL]
- German and Hindi: [PL] > [SG]                    Keine et al. 2019; Coon & Keine 2020

# Hierarchy Effects: Person

- Copular agreement displays hierarchy effects:

    (8)   Context: Actors discussing their roles in a play.

    a.   nenu picci-vaaḍi-ni
         1SG   mad-3SG-1SG
         'I am the mad man'                                         1SG > 3SG

    b.   * vaaDu nenu-(ni/∅)
         3MS    1SG-(1SG/3SG)
         'He is me'                                                 * 3SG > 1SG

| SUB > PRED | ✗/✓ | SUB > PRED | ✗/✓ |
|------------|-----|------------|-----|
| 1 > 1 | ✗ | 1 > 3 | ✓ |
| 2 > 1 | ✗ | 2 > 3 | ✓ |
| 3 > 1 | ✗ | 2 > 3 | ✓ |
| 1 > 2 | ✗ | | |
| 2 > 2 | ✗ | | |
| 3 > 2 | ✗ | | |

Table: Person mismatches; NUM = SG

- Person Hierarchy effects: *1/2/3 > 1/2                                 ≈ Strong PCC

# Hierarchy effects: Summary

|   |    | 1 | | 2 | | 3 | |
|---|----|----|----|----|----|----|----|
|   |    | SG | PL | SG | PL | SG | PL |
| 1 | SG | * | * | * | * | ✓ | ✓ |
|   | PL | * | * | * | * | * | ✓ |
| 2 | SG | * | * | * | * | ✓ | ✓ |
|   | PL | * | * | * | * | * | ✓ |
| 3 | SG | * | * | * | * | ✓ | * |
|   | PL | * | * | * | * | * | ✓ |

Table: Summary — Assumed Identity Contexts in Telugu. Rows = $DP_1$; and Columns = $DP_2$

# Analysis

- Hierarchy effects arise because of too much agree            Coon & Keine 2020
- Gluttonous probes consume everything in their way, until they are satisfied.
- When a probe agrees with a goal G, all the $\varphi$-features on the goal are copied.     Deal 2015



1SG > 3PL

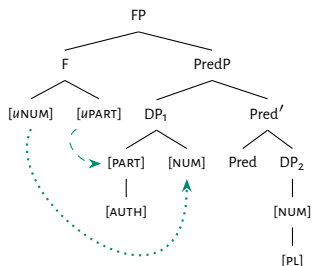$[1SG] \Rightarrow$ /nu/

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1SG > 3PL

FP
F  PredP
[uPART]  DP$_1$  Pred′
[PART]  [NUM]  Pred  DP$_2$
[AUTH]  [NUM]
[PL]

[1SG] $\Rightarrow$ /nu/

1PL > 3SG

FP
F  PredP
[uPART]  DP$_1$  Pred′
[PART]  [NUM]  Pred  DP$_2$
[AUTH]  [PL]  [NUM]
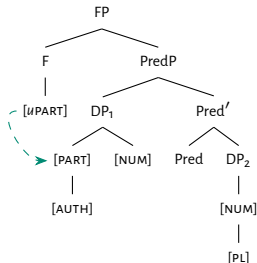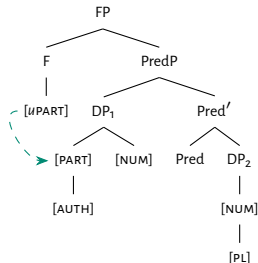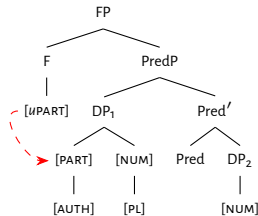
[1PL] $\Rightarrow$ /mu/

- I assume tentatively that the person probe is relativized to [PARTICIPANT]
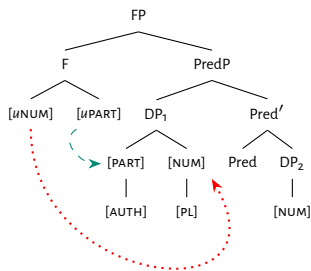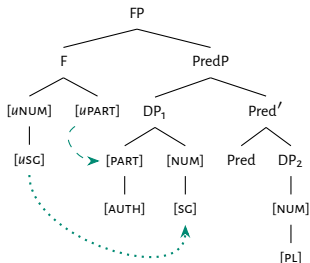
# Proposal: Relativization to [sɢ]

- Deriving the Telugu copular agreement paradigm requires a way to favour singular nominals over plural ones during search.
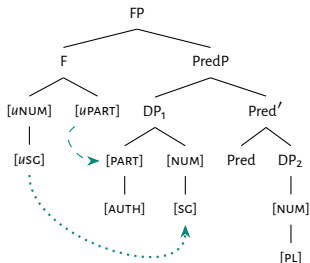- Singular can't simply be the absence of [ᴘʟ]:



1sɢ > 3ᴘʟ

[1sɢ] ⟹ /nu/

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- Singular can't simply be the absence of [PL]:

1SG > 3PL
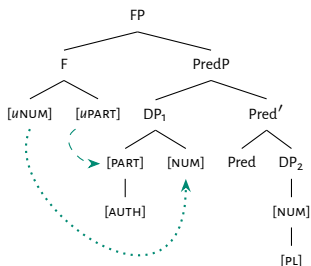
1PL > 3SG

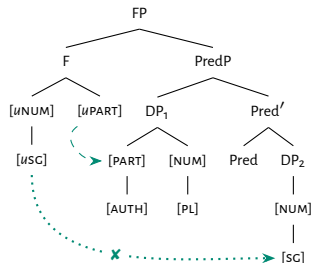[1SG] ⇒ /nu/

[1PL] ⇒ /mu/

# Proposal: Relativization to [sɢ]

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- Singular can't simply the absence of [ᴘʟ]: We need [sɢ]

1SG > 3PL



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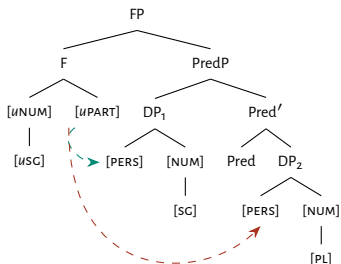- Singular can't simply the absence of [PL]: We need [SG]



1SG > 3PL

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$[1\text{SG}] \Rightarrow$ /nu/

$\{[1\text{PL}], [3\text{SG}]\} \Rightarrow$ ??

## 3SG > 3PL

- Probes monotonically copy features from potential goals until its requirements are satisifed.
- Monotonically: Given a set of features F on probe P, P agrees with a goal $G_1$ with features X, iff there is no goal $G_2$ that intervenes between P and $G_1$ with features Y where $Y \supset X$
- Basically, if probe P has agreed with some goal, then it will not agree with further goals that have a proper subset of features of the first.
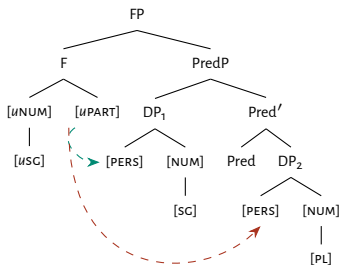


3SG > 3PL

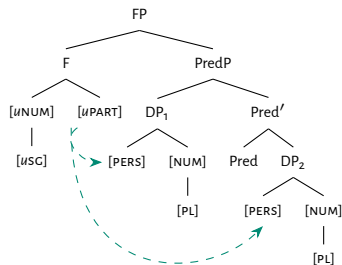$\{\,[3SG],\,[3PL]\,\} \Rightarrow$ ???

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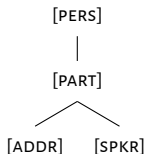


$$\{\,[3SG],\,[3PL]\,\} \Rightarrow ???$$

$$\{[3PL],\,[3PL]\} \Rightarrow \varnothing$$

- [3SG.HON] is grammatically plural.

# Strong PCC effects

- The person combinations that are disallowed can be captured with the system given here, with some modifications:
- If the $\pi$-probe is restricted only to [PART], then we have no account of "*[PART] > [PART]"
- Modification:

```
        [PERS]
           |
        [PART]
         ╱    ╲
   [ADDR]    [SPKR]
```

- Combined with the non-decreasing requirement on agreement, the Strong PCC type effects fall out from the probe above.
- However ...

# The problem is in the probe

- Telugu has an eventive Pred head *-gaa*, which is in complementary distribution with the agreeing probe we have been loooking at: Balusu 2016

  (9)  nenu manči-vaaḍi-(*ni)-gaa-(*ni) avutaanu
       1SG  good-3MS-(1SG)-EPRED-(1SG) become
       'I will become the good man'

- The absence of this probe with *-gaa* repairs the deviant sentences from before:

  (10)  memu pičči-vaaḍi-gaa  avutaanu
        1PL     good-3MS-EPRED become
        'We will become the mad man'

- but not all:

  (11)  * nenu memu-gaa avutaanu
          1SG  1PL-EPRED become
          'I will become us'

- This suggests that Gluttony by itself is not enough to account for all the patterns here. However, given the amelioration of deviance in (10), Gluttony seems to have some role to play.

- Crucially, the one case where we do need the [SG] probe ([PART.SG] > [PL]) is rescued when the probe is deleted.

# Hierarchy effects when there are no probes: Summary

|   |    | 1 | | 2 | | 3 | |
|---|----|----|----|----|----|----|----|
|   |    | SG | PL | SG | PL | SG | PL |
| 1 | SG | * | * | * | * | ✓ | ✓ |
|   | PL | * | * | * | * | ✓ | ✓ |
| 2 | SG | * | * | * | * | ✓ | ✓ |
|   | PL | * | * | * | * | ✓ | ✓ |
| 3 | SG | * | * | * | * | ✓ | ✓ |
|   | PL | * | * | * | * | ✓ | ✓ |

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- I must note that the judgements here are a little iffy for [PART] > [PART].

# Mundari T-probe: Same, but on steroids

- Murugesan (2021) describes a complex system of omnivorous agreement in Mundari (Austroasiatic):
- In a ditransitive with third person direct and indirect objects:

| DO | IO | Object Marker |
|------|------|-------------|
| [3SG] | [3PL] | [3SG] |
| [3PL] | [3SG] | [3SG] |
| | | |
| [3DL] | [3PL] | [3PL] |
| [3PL] | [3DL] | [3PL] |
| | | |
| [3SG] | [3DL] | [3SG] |
| [3DL] | [3SG] | [3SG] |

Mundari Omnivorous number

- Number hierarchy: SG > PL > DL
- Omnivorous singular agreement needs us to favour singular nominals over plurals.

# Implications?

❶ No universal feature structure/inventory:

Some languages: [ NUM [ SG ] ]     Some others: [ NUM [ PL ] ]

- The choice is perhaps driven by language-specific evidence about markedness.
  - As far as I can tell, Telugu provides no independent evidence that [SG] is marked:
  - Other than the hierarchy effects presented here, there is no evidence of omnivory (or hierarchy)
  - Default agreement is 3rd person, neuter, **singular**.

❷ Alternatively: Number features are universally binary.                    [PL] = [−SG]

- Universal = across modules, and across languages.
- Converges with results from other empirical domains: suppletion and pronominal typology (Harbour, 2011, 2013; Smith et al., 2019)

- We still need an account of how [SG] comes to be favoured, but at least it's there to be manipulated.

# As far as I can tell

- The default agreement exponent in Telugu is "third person, neuter, singular"
- Singular nouns are unmarked, and plural nouns are marked with /-lu/
- The pronominal system can be captured by [NUM [PL]]. Suppressing person:

(12)  a. $\begin{bmatrix} \# : & \text{PL} \\ \pi : & 1 \\ \Gamma : & \end{bmatrix} \Rightarrow$ /memu/    d. $\begin{bmatrix} \# : & \\ \pi : & 2 \\ \Gamma : & \end{bmatrix} \Rightarrow$ /nuvvu/    g. $\begin{bmatrix} \# : & \\ \pi : & 3 \\ \Gamma : & \text{HU,M} \end{bmatrix} \Rightarrow$ /vaaDu/

  b. $\begin{bmatrix} \# : & \\ \pi : & 1 \\ \Gamma : & \end{bmatrix} \Rightarrow$ /nenu/    e. $\begin{bmatrix} \# : & \text{PL} \\ \pi : & 3 \\ \Gamma : & \text{HU} \end{bmatrix} \Rightarrow$ /vaaru/    h. $\begin{bmatrix} \# : & \\ \pi : & 3 \\ \Gamma : & \text{HU} \end{bmatrix} \Rightarrow$ /aame/

  c. $\begin{bmatrix} \# : & \text{PL} \\ \pi : & 2 \\ \Gamma : & \end{bmatrix} \Rightarrow$ /meeru/    f. $\begin{bmatrix} \# : & \text{PL} \\ \pi : & 3 \\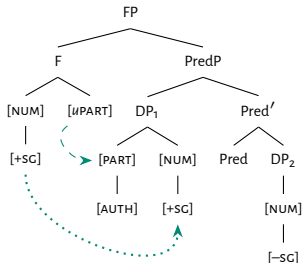 \Gamma : & \end{bmatrix} \Rightarrow$ /avi/    i. $\begin{bmatrix} \# : & \\ \pi : & 3 \\ \Gamma : & \end{bmatrix} \Rightarrow$ /adi/

- Places to check: suppletion patterns of pronominals.

# Analysis: Revised

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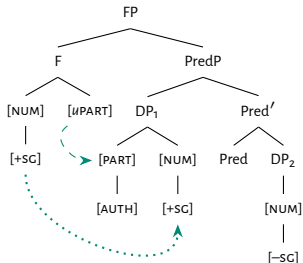
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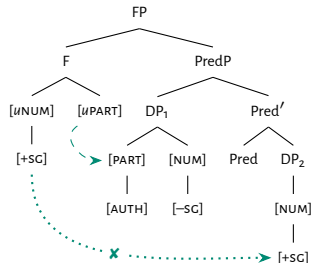
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