The Interplay of Morphotactics and Underspecification: Overabundance in Athpare

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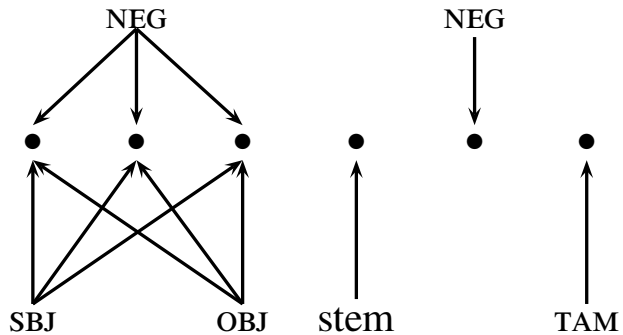
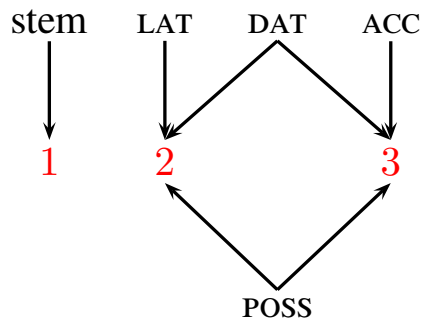
Overabundance & morphotactics

- Theoretical recognition of overabundance relatively recent (Thornton, 2011, 2012, 2019)
  Typical pattern: disjunction (including underspecification and optionality)
- Morphotactic overabundance: two classical examples



(a) Chintang (Bickel et al., 2007)



(b) Mari (Luutonen, 1997)

  - Overabundance as a consequence of unconditioned variable morphotactics (Crysmann & Bonami, 2016)
- Overabundance in Athpare: combination of underspecification, optionality and morphotactic competition

Athpare: Basic paradigm structure

- Kiranti language documented in Ebert (1997); Newpane (2041)
- Verbs inflect along several dimensions:
  - tense/aspect
  - polarity
  - (up to) two **participants**
- Participant marking
  - distinguishes S, A, and O participants
  - involves inflection by typically discrete person and number markers
  - up to four exponents for transitives (e.g. with 3rd person O)

(1) a- nisa -c -u -c -e
2- see -DUA -3O -NSGO -PST
'You two saw them.' (Ebert, 1997, 30)

Athpare: Basic paradigm structure

↓ A \ O →	1SG	1DE	1PE	1DI	1PI	2SG	2DU	2PL	3SG	3DU	3PL	↓ S
1SG						-na	-naci	-nani	-uŋ	-uŋciŋ	→	-ŋa
1DE						↓	↓	↓	-cuŋ	-cu(ci)ŋ	→	-ciŋa
1PE						↓	↓	↓	-umma	-umcimma	→	-iŋa
1DI									-cu	-cu(ci)	→	-ci
1PI									-um	-umcim	→	-i
2SG	a- -ŋa	a- -ciŋa	a- -iŋa						a- -u	a- -uci	→	a-
2DU	a- -ciŋa	→ = ↓	→ ≠ ↓						a- -cu	a- -cu(ci)	→	a- -ci
2PL	a- -iŋa	→ ≠ ↓	→ = ↓						a- -um	a- -umcim	→	a- -i
3SG	-ŋa	-ciŋa	-iŋa	a- -ci	a-	ma-	ma- -ci	ma- -i	-u	-uci	→	∅
3DU	-ciŋa	→ = ↓	↓	↓	a- -ci	↓	↓	↓	-cu	-cuci	→	-ci
3PL	u- -ŋa	u- -ciŋa	u- -iŋa	↓	a-	↓	↓	↓	u- -u	u- -uci	→	u-

Figure: Athpare verbal agreement. Arrows show syncretic cells. Two-way syncretism (with ≠) or optional morphs (in parentheses) may lead to overabundance.

- Neutralisation of number marking:
  - A number with O hearer (vertical syncretism)
  - 3rd O dual/plural (horizontal syncretism)
- Main areas of interest: 2>1 and 3>1 (horizontal/vertical)

Syncretism with overabundance (2>1)

- Person marking:
  - Prefix *a-*: hearer participant
  - Suffix *-ŋa*: 1 exclusive
- Number marking:
  - Suffix *-ci*: (some) dual participant
    Syncretism of dual-marked forms yields "+"-shaped morphome
  - Suffix *-i*: (some) plural participant
    Syncretism of plural-marked forms yields "L"-shaped morphome
- Overabundance:
  - Overlap between "+" and "L": → ≠ ↓ , i.e. PL>DU and DU>PL

↓ A \ O →	1SG	1DE	1PE	↓ S
2SG	a- -ŋa	a- - ci ŋa	a- - i ŋa	a-
2DU	a- - ci ŋa	→ = ↓	→ ≠ ↓	a- - ci
2PL	a- - i ŋa	→ ≠ ↓	→ = ↓	a- - i
S →	-ŋa	- ci ŋa	- i ŋa	

Figure: Athpare verbal agreement 2>1

Syncretism without overabundance (3>1)

↓ A \ O →	1SG	1DE	1PE	↓ S
3SG	-ŋa	- ci ŋa	- i ŋa	-∅
3DU	- ci ŋa	→ = ↓	↓	- ci
3PL	u- -ŋa	u- - ci ŋa	u- - i ŋa	u-
S →	-ŋa	- ci ŋa	- i ŋa	

Figure: Athpare verbal agreement 3>1

- Number marking in (traditional) 3>1 subparadigm (Newpane, 2041)
  - similar to 2>1
    - Suffix *-i*: plural O participant (obligatory here)
    - Suffix *-ci*: some dual participant
  - Prefix *u-*
    - unambiguously marks 3PL A (and S)
- No overabundance
  - Plural marker *-i* obligatory for O: A dual number marker preempted
  - 3A plural marker *u-* does not positionally compete with O number markers

More overabundance: 1/2DU>3NSG

- Optionality of O non-singular marker in 1/2DU>3NSG
  - simple case of overabundance
  - purely triggered by optionality of the marker itself
  - contrasts with obligatoriness of O non-singular marker *-ci*
    - in 3>3 cells
    - in 1/2PL>3 and 1/2SG>3 cells
  - appears unmotivated
    - both repetition and its avoidance are attested in same cell
    - no “haplology” in another cell

↓ A \ O →	3SG	3DU/PL
1SG	-uŋ	-uŋciŋ
1DE	-cuŋ	-cu (ci) ŋ
1PE	-umma	-umcimma
1DI	-cu	-cu (ci)
1PI	-um	-umcim
2SG	a- -u	a- -uci
2DU	a- -cu	a- -cu (ci)
2PL	a- -um	a- -umcim
3SG	-u	-uci
3DU	-cu	-cuci
3PL	u- -u	u- -uci

Figure: Athpare verbal agreement >3

Analysis: Understanding the Athpare patterns

- Overabundance in 2>1 is a combination of
  - underspecification (for role)
  - optional exponence
  - morphotactic competition
- xor-pattern (no mere optionality)
  - morphotactic obligatoriness of some number marker
  - optionality of *-ci* and *-i* marking
  - morphotactic competition of dual and plural marker for same slot
- overabundance builds on tendencies already present in the language
  - number neutralisation attested for both A (vertical) and O (horizontal)
  - underspecification for role attested for several person markers
  - optionality of *-ci* marker independently attested (1/2>3DU)
  - number neutralisation for 2>1 in related Limbu (van Driem, 1987):

↓ A \ O →	1SG	1DU	1PL
2SG	kɛ- -aŋ	a-kɛ-	a-kɛ-
2DU	a-kɛ-	a-kɛ-	a-kɛ-
2PL	a-kɛ-	a-kɛ-	a-kɛ-

Figure: Limbu (van Driem, 1987)

Morphotactics in IbM

- Formal analysis carried out in Information-based Morphology (Crysmann & Bonami, 2016; ?)
- Realisational theory of inflection focused on complex morphotactics
- Combination of
  - templatic description
  - underspecification techniques (inheritance hierarchies of rules)
- Many-to-many: rules are pairings of
  - *m* properties to express (MUD) with
  - *n* morphs (MPH) that realise them (phonology & position)
- Local contribution and global conditioning
  - Rules can constrain on other morphosyntactic properties (MS) than those realised (MUD)
  - Rules can constrain on other exponents/positions (MPS) than those introduced (MPH)

$$
\textit{word} \rightarrow \left[\begin{array}{ll}
\textsc{mps} & \boxed{1}\left(\boxed{e_1} \circ \ldots \circ \boxed{e_n}\right) \\
\textsc{ms} & \boxed{0}\left(\boxed{m_1} \cup \cdots \cup \boxed{m_n}\right) \\
\textsc{rr} & \left\{\left[\begin{array}{ll}\textsc{mph} & \boxed{e_1}\\ \textsc{mps} & \boxed{1}\\ \textsc{mud} & \boxed{m_1}\\ \textsc{ms} & \boxed{0}\end{array}\right], \ldots, \left[\begin{array}{ll}\textsc{mph} & \boxed{e_n}\\ \textsc{mps} & \boxed{1}\\ \textsc{mud} & \boxed{m_n}\\ \textsc{ms} & \boxed{0}\end{array}\right]\right\}
\end{array}\right]
$$

2>1

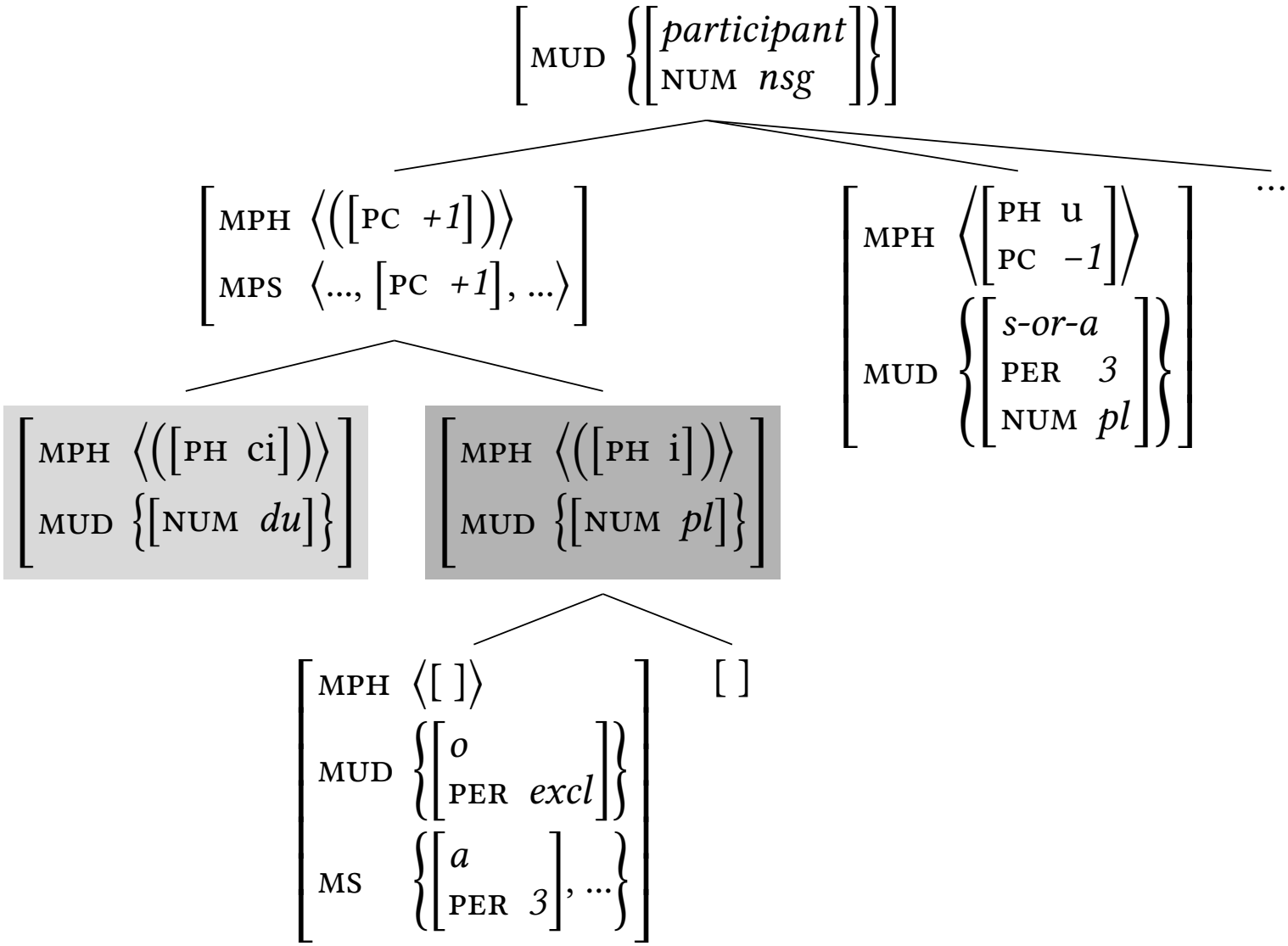


Figure: Rule hierarchy for number marking in the >1 corner, with optional but morphotactically restrictive rules, and *-u* preempting *-i* in the third person.

1/2DU>3NSG

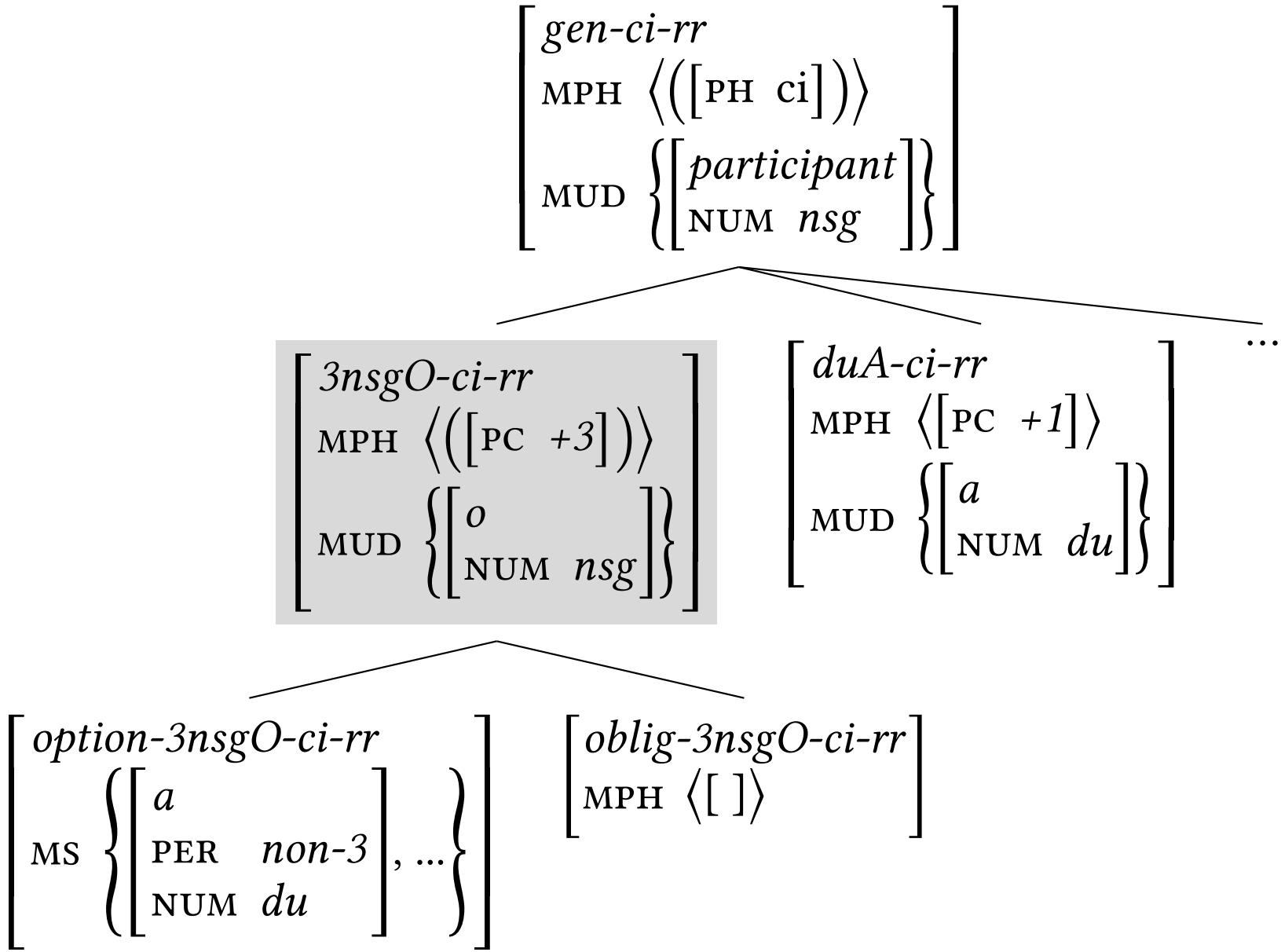


Figure: Rule hierarchy for (occasionally optional) number marking in the >3 corner.

Conclusion

- Athpare 2>1 number marking
  - presents a new type of overabundance
  - arises by combination of optionality and morphotactic competition
  - draws on independently attested
    - patterns of syncretism (horizontal/vertical)
    - role underspecification
    - exponence
- Present analysis
  - straightforwardly addresses role underspecification
  - captures competition pattern by local and global constraints
    - either marker is optional (on local MPH)
    - one must be present (on global MPS)
  - exploits inheritance hierarchies
    - share descriptions of exponence across sub-paradigms
    - add restrictions to specific areas only (e.g. 3>1)

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