Limits on pronominal gender:

A semantic account of a morphological pattern

Bronwyn M. **Bjorkman**, Elizabeth **Cowper**, Daniel Currie **Hall**, Dan **Siddiqi** & Isabelle **Boyer**

(Queen's)   (Toronto)   (Saint Mary's)   (Carleton)

1 Introduction

■ **Morphological 'upstaging'**: Realization of one feature at the expense of another

▸ Competition between VIs in standard DM (Halle & Marantz 1993, 1994; Harley & Noyer 1999) yields a clear winner only when competitors' features are in a superset–subset relation.

▸ But what happens when no such relation exists—e.g., if you're trying to realize a 2nd person feminine pronoun, and you've got one VI specified only with [PARTICIPANT] competing with another specified only with [FEMININE]?

▸ Are there (universal) principles that tell you which one wins?

■ This talk: Does person—or do person and number—upstage gender?

▸ Many pronoun systems mark gender only in 3rd person, often only in 3rd singular.

▸ Is this because vocabulary insertion privileges person, or is there another explanation?

▸ Potential accounts we reject: Feature geometry (§3.2.1); Impoverishment (§3.2.2)

▸ One we think may be on the right track:
  • Gender features can be higher or lower syntactically (Ritter 1993; Kramer 2016a).
  • If gender is **high**, it can only compose with 3rd persons: 1st and 2nd persons are of the wrong semantic type (Bjorkman et al. 2019).
  • If gender is **low**, composing before person, we can get gender contrasts in all persons.

▸ So the interaction of gender and person isn't really morphological: person pre-empts gender in the syntactic structure, for semantic reasons, not in vocabulary insertion.

▸ But upstaging of gender by number may involve a morphological preference for one type of feature over another.

2 The phenomenon

2.1 Previous typological work on gender, number, and person

Siewierska (2013): "Gender oppositions in personal pronouns are characteristic of the third rather than the first or second person."

■ Greenberg (1966: 75–76):

▸ **Universal 44**: If a language has gender distinctions in the first person, it always has gender distinctions in the second or third person, or in both.

▸ **Universal 37**: A language never has more gender categories in non-singular numbers than in the singular.

▸ **Universal 45**: If there are any gender distinctions in the plural of the pronoun, there are some gender distinctions in the singular also.

■ Plank & Schellinger (1997: 94):

▸ A gender distinction in the singular authorizes the same gender distinction in non-singular numbers of the corresponding person.

▸ A gender distinction in 3rd person singular authorizes the same gender distinction in 1st and/or 2nd person non-singular.

▸ A gender distinction in 3rd person non-singular needs no special authorization.

▸ If gender is limited to non-singular, a gender distinction in 3rd person authorizes the same gender distinction in 2nd person, which in turn authorizes the same gender distinction in 1st person.

2.2   Confirmation in a new survey

■ Beginning with Bliss & Ritter's (2009) pronouns database, with a few additions

■ Currently extends to 112 languages

■ Data drawn from published grammars, sometimes supplemented by articles

■ **The specific question for today:** If there is a syncretism in a pronominal paradigm, is it more likely that a distinction in person will be preserved at the expense of a distinction in gender, or vice versa?

■ What counts as gender marking in a pronominal system? For the present purposes, any distinction that could **not** be characterized in terms of either

▸ participant features (e.g., inclusive vs. exclusive) or

▸ politeness/honorification

So 'gender' for us is fairly broad, and includes things like animacy and noun class.

ONLY PARTICIPANTS	PARTICIPANTS AND NON-PARTICIPANTS		ONLY NON-PARTICIPANTS
2nd only	1st, 2nd & 3rd	2nd & 3rd only	3rd only
Iraqw	Djingli, Ngandi, Rikbaktsa, Slovenian (Lithuanian) (Spanish)	Arabic, Bandjalang, **Hausa**, Hebrew, Tamazight, Tunica	**Ainu**, Albanian, Arapesh, Asheninca, **Awtuw**, Basque, Catalan, **Chinook**, **Cubeo**, Czech, **Dieri**, **Dutch**, **(Old) English**, **German**, Godie, Greek, Halkomelem, **Hinuq**, Ho, IsiXhosa, Kaingang, Kannada, Latin, Latvian, **Lushootseed**, Marshallese, Mixteco, Mohawk, Pakaasnovos, Palauan, Polish, **Pomo**, Romanian, **Somali**, Sotho, **Swedish**, **Telugu**, **Welsh**, **Wolaytta**, **Xokleng**, Yimas, Zapoteco
1	6	6	42
	12		

Table 1: *Gender marking by person in 55 languages. Languages in **bold** mark gender only on singular pronouns.*

The numbers (see Table 1)

- 112 languages in the survey; 55 mark gender on at least some pronouns.
- 42 of 55 mark gender **only** in non-participant (i.e., 3rd person) pronouns—like Czech in (1).
  - ▶ 17 of 42 mark gender only in the singular (in boldface)—like Awtuw in (2).

(1) Czech pronouns:
Gender marked only in 3rd person

		SING.	PLUR.
1		*já*	*my*
2		*ty*	*vy*
3	MASC.	*on*	*oni*
	FEM.	*ona*	*ony*
	NEUT.	*ono*	*ona*

(Janda & Townsend 2002)

(2) Awtuw pronouns:
Gender marked only in 3rd singular

		SING.	DUAL	PLUR.
1		*wan*	*nan*	*nom*
2		*jen*	*an*	*om*
3	FEM.	*tej*	*ræw*	*rom*
	NON-FEM.	*rej*		

(Feldman 1986)

- Of the remaining 13:
  - ▶ 6 mark gender in all persons
  - ▶ 6 mark it in 2nd and 3rd person but not in 1st person.
  - ▶ Only **one** language (Iraqw) marks gender on participants but not 3rd persons

3   The theoretical challenge

- Is gender just less 'useful' in the 1st and 2nd person than in 3rd?
  - ▶ Author and Addressee are uniquely identifiable by their roles in the discourse.
  - ▶ Gender can help to disambiguate the reference of non-participant pronouns.
- But this is not an explanation. It makes no testable predictions.
- And some languages *do* encode social properties of the author and/or the addressee in expressions that refer to them, as in the Japanese paradigm in (3).

(3)   Gender and register in Japanese first-person pronouns

	Men's speech	Women's speech
Formal	*watakushi* *watashi*	*watakushi* *atakushi*
Plain	*boku*	*watashi* *atashi*
Deprecatory	*ore*	∅

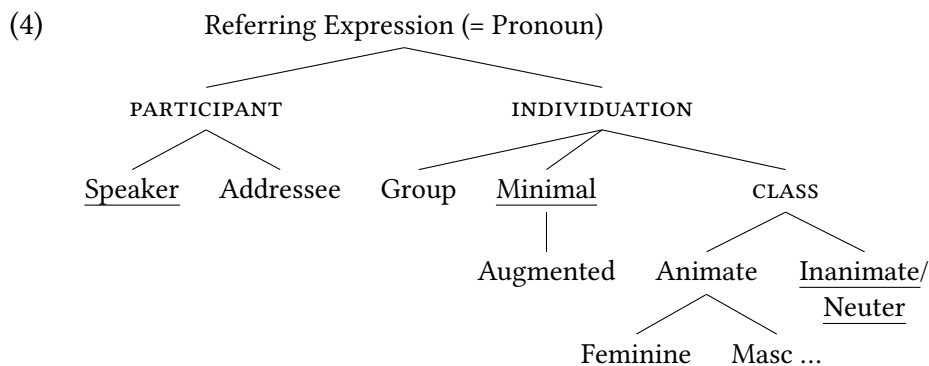(Miyazaki 2004: 257, citing Ide 1997: 73)

3.1 Formal assumptions

■ General syntactic framework of Minimalism (Chomsky 1995 et seq.)

■ Distributed Morphology (Halle & Marantz 1993, 1994; Harley & Noyer 1999)

■ Neo-parametric approach to morphosyntactic features (Cowper & Hall 2014, 2017):

  ▸ Features are not universal (but the mechanism by which they are acquired is).

  ▸ The syntactic configuration of features is constrained by requirements of feature-checking and semantic composition (thus by interface conditions, as in Chomsky 1995).

3.2 Two possible but unsuccessful accounts

3.2.1 Feature geometry

■ Do the interactions between gender and person follow from geometric dependency relations among features, à la Harley & Ritter (2002: 486)?

  ▸ Greenberg's (1966: 74) Universal 36: "If a language has the category of gender, it always has the category of number."

  → CLASS (gender) is geometrically dependent on INDIVIDUATION (number)

(4)

```
                    Referring Expression (= Pronoun)
             _____|_____
            |                                       |
      PARTICIPANT                              INDIVIDUATION
       ___|___                          _____|_____
      |       |                        |           |           |
   Speaker  Addressee                Group      Minimal      CLASS
                                                  |        ___|___
                                               Augmented  |       |
                                                       Animate  Inanimate/
                                                        __|__     Neuter
                                                       |     |
                                                   Feminine  Masc ...
```

■ BUT this won't work for person, especially if the features are privative:

  ▸ Third person is unmarked relative to 1st and 2nd person. It lacks [PARTICIPANT] (Harley & Ritter 2002), [PERSON] (Bonet 1991), or [PROX] (Ackema & Neeleman 2013).

  ▸ There is no feature that third-person pronouns have that participant pronouns lack.

  ▸ So there is no feature that third-person-only gender could be dependent on.

■ If the features are binary (e.g., Noyer 1992; Harbour 2016; Cowper & Hall 2019), maybe gender could be a dependent of [−participant]?

  ▸ Then why aren't there at least as many languages where gender is a dependent of the marked value [+participant]?

■ AND, remember that not all languages restrict gender to third persons. So the interaction of gender and person features is not cross-linguistically constant.

  ▸ If the feature geometry is universal, then gender can't be dependent on 3rd person.

  ▸ If the feature geometry is language-specific, it can't explain the asymmetry in Table 1.

3.2.2 Impoverishment

- **Impoverishment** rules can delete features (Bonet 1991; Halle & Marantz 1993).
- This is a standard DM way to account for metasyncretisms that are too systematic to be attributable to the underspecification of individual vocabulary items (Bobaljik 2001; Harley 2008).
- Unlike feature geometry, Impoverishment provides a way to say that some marked feature (like [GENDER]) is realized only if another marked feature (like [PARTICIPANT]) is **absent**.
- Aha! Just what we were looking for! So, a language-specific impoverishment rule can delete gender features in the context of [PARTICIPANT].

(5) Korana (Central Khoisan):
     Gender marked in all persons
     No impoverishment

	MASC.	FEM.
1st	*tire*	*tita*
2nd	*sats*	*sas*
3rd	*ll'dib*	*ll'dis*

(Siewierska 2013, citing Meinhof 1930)

(6) Québécois:
     Gender marked only in 3rd person
     [FEM] $\rightarrow \varnothing$ / [PART]

	MASC.	FEM.
1st	ʒ	ʒ
2nd	t	t
3rd	i	a

- But wait a minute. What if an impoverishment rule deleted [PARTICIPANT] in the context of a marked gender feature, like [FEMININE]?

(7) Unattested: [PART] $\rightarrow \varnothing$ / [FEM]
     Person marked only in non-feminine

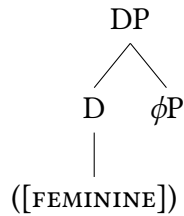|	MASC.	FEM.
1st	ʒ	a
2nd	t	a
3rd	i	a

- This impoverishment rule is as simple and natural as the one deriving the Québécois pattern in (6), but the pattern in (7) is unattested in any language we have looked at.
- An impoverishment analysis thus only shifts the question to another level: Why there is an asymmetry in attested impoverishment patterns? Absent an answer, we move on...

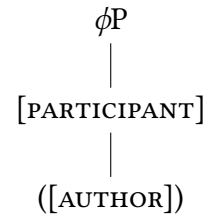## 4 Proposal: A syntactic account motivated by semantic composition

- In many languages, third-person pronouns are, or pattern with, demonstratives (Ritter 1995).
- It could be that in some languages, third-person pronouns have a layer of structure—possibly D—that participant pronouns lack.
- Gender features could be on that head, as in (8).[1]

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1. A high position for gender on pronouns is in tension with arguments that grammatical gender on nouns is systematically low, on little-*n* (Kramer 2015). Space prevents us from reviewing the considerable literature addressing the syntactic position of gender features in syntax; see Kramer (2016a) for a summary of relevant debates.

(8) a. 3rd person

             DP
            / \
           D ϕP
           |
       ([FEMININE])

b. 1st or 2nd person

           ϕP
            |
       [PARTICIPANT]
            |
        ([AUTHOR])

- But this can't be the whole answer:
  - ▸ What prevents the D head from combining with a ϕP that contains [PARTICIPANT]?
  - ▸ And if a D head can select a ϕP without [PARTICIPANT], why couldn't a D head in a different language select a ϕP **with** [PARTICIPANT]?
- We have argued elsewhere, for Heiltsuk (Bjorkman et al. 2019) and for Marshallese (Cowper & Hall 2022), that participant and non-participant ϕPs have different semantic types.
- If those arguments are correct, it would be unsurprising if participant and non-participant ϕPs had different potential for composing with further syntactic heads.

4.1 The Heiltsuk story

(9) Heiltsuk demonstratives (Rath 1981: 87–88, 91, cited in Bjorkman et al. 2019)[2]

	CLITIC	FULL	GLOSS
I	$ga\chi^w$	$gáq^w$	'this' (here with me)
II	$gats\chi^w$	$gátsq^w$	'this' (here with me, invisible)
III	$qu\chi^w$	$qúq^w$	'that' (there with you)
IV	$qu\chi^w ts\chi^w$	$qú\chi^w tsq^w$	'that' (there with you, invisible)
V	$qi\chi^w$	$qíq^w$	'that' (over there / under discussion)
VI	$qits\chi^w$	$qítsq^w$	'that' (over there / under discussion, invisible)
VII	$qki\chi^w$	$qkíq^w$	'that' (absent / gone)

- Ontology of persons $\{i, u, o, o', o'', o''', ...\}$ (Harbour 2016)
- Grammatical person features [±author], [±participant] (Cowper & Hall 2019)
- A locative element χ, adapted from Harbour (2016)

(10) $[\![\chi]\!] = \lambda x . \lambda y . \text{NEAR}(y, x)$

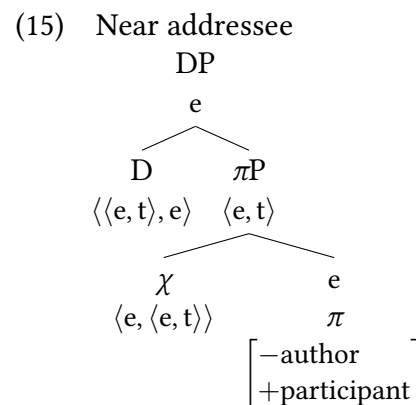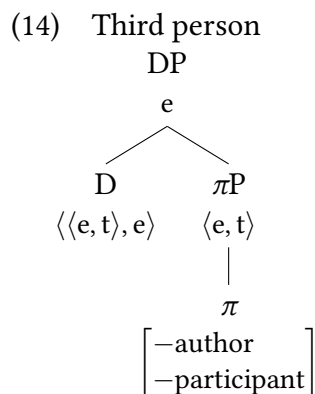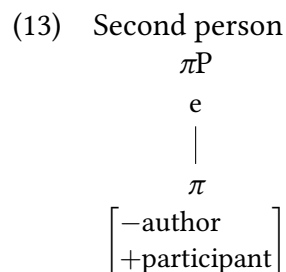- Participant π heads are of type e, and so can combine with χ.

(11) a. $\begin{bmatrix} +\text{author} \\ -\text{participant} \end{bmatrix} = i$ b. $\begin{bmatrix} -\text{author} \\ +\text{participant} \end{bmatrix} = u$ c. $\begin{bmatrix} +\text{author} \\ +\text{participant} \end{bmatrix} = iu$

- The 3rd-person π head [−author, −participant] denotes the **property** of not being a discourse participant, and is of type $\langle e, t \rangle$.

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2. Heiltsuk (Wakashan), known as Haíłzaqvḷa by its speakers, is the language of the Heiltsuk nation, located on the Pacific coast in the province of British Columbia.

(12) $\begin{bmatrix} -\text{author} \\ -\text{participant} \end{bmatrix} = \lambda x \,.\, x \in \{o, o', o'', o''', \dots\}$

■ A Heiltsuk participant πP can be an argument by itself (13).
■ A nonparticipant πP needs a D head to derive an e-type argument (14).
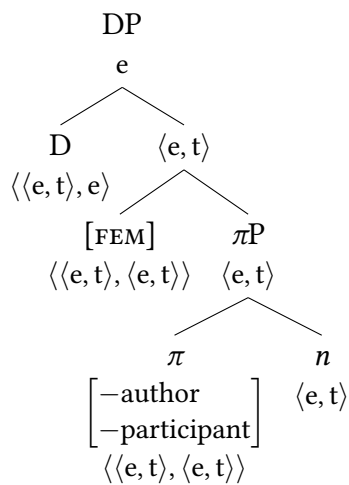■ So does a participant πP that has combined with χ (15).

(13) Second person

πP

e

|

π

$\begin{bmatrix} -\text{author} \\ +\text{participant} \end{bmatrix}$

(14) Third person

DP

e

D $\langle\langle e, t \rangle, e \rangle$ πP $\langle e, t \rangle$

|

π

$\begin{bmatrix} -\text{author} \\ -\text{participant} \end{bmatrix}$

(15) Near addressee

DP

e

D $\langle\langle e, t \rangle, e \rangle$ πP $\langle e, t \rangle$

χ $\langle e, \langle e, t \rangle \rangle$ e π

$\begin{bmatrix} -\text{author} \\ +\text{participant} \end{bmatrix}$
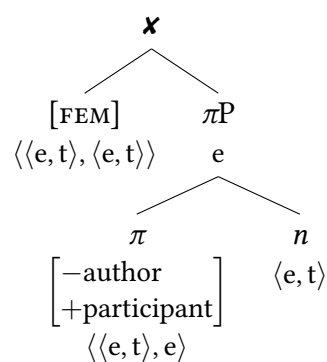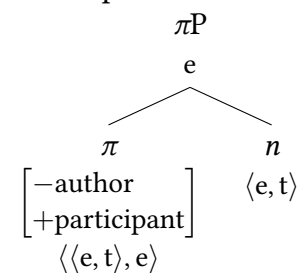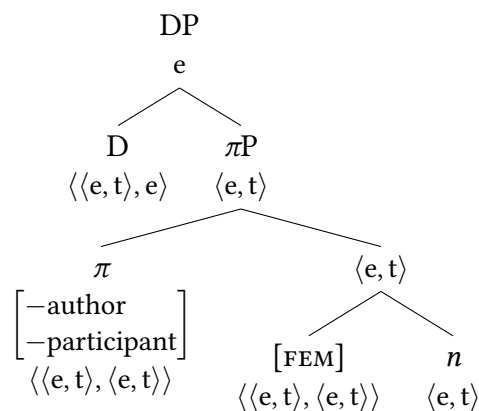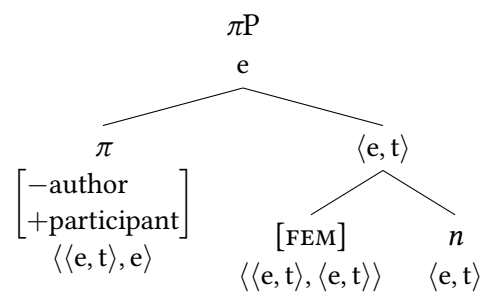
4.2 Where does gender fit in?

■ How do gender features work, semantically?

▶ We propose that they are of type $\langle et, et \rangle$, as in (16).[3]
▶ This means they can compose with 3rd-person πPs (type $\langle e, t \rangle$), but not with participant πPs (type e).

(16)   a. $[\![\textsc{masc}]\!] = \lambda F.\lambda x.F(x) \,\&\, \textsc{masculine}(x)$
     b. $[\![\textsc{fem}]\!] = \lambda F.\lambda x.F(x) \,\&\, \textsc{feminine}(x)$

BUT: This doesn't account for languages that also mark gender in participant pronouns.

■ We assume that pronouns have a nominal core (n), which is of type $\langle e, t \rangle$.
■ Assume further that π heads don't directly denote author, addressee, or others. Instead:

▶ π heads with [+author] or [+participant] are of type $\langle et, e \rangle$.
▶ 3rd-person π heads are of type $\langle et, et \rangle$.

■ Finally, assume that gender can be either high (above person), or low (on n)

▶ If gender is high, it will combine with 3rd persons, but not with participants.
▶ If gender is low, it combines with n; the result can compose with any set of person features.

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3. The predicates $\textsc{masculine}(x)$ and $\textsc{feminine}(x)$ can be satisfied based on grammatical and/or what Ackerman (2019) calls biosocial gender, depending on the system of a particular language. We assume that other kinds of gender/animacy/noun-class features have the same compositional property. If gender/animacy/noun class should be analyzed in different terms for a given language—as for example animacy in Blackfoot has been analyzed as a form of nominal aspect by Ritter (2014)—it would fall outside the scope of our proposal here.

(17) High gender
      3rd feminine

$$
\begin{array}{c}
\text{DP} \\
e \\
\diagup \diagdown \\
\underset{\langle\langle e,t\rangle,e\rangle}{D} \qquad \underset{\langle e,t\rangle}{} \\
\end{array}
$$

DP : e
- D : ⟨⟨e,t⟩,e⟩
- ⟨e,t⟩
  - [FEM] : ⟨⟨e,t⟩,⟨e,t⟩⟩
  - πP : ⟨e,t⟩
    - π : [−author, −participant] ⟨⟨e,t⟩,⟨e,t⟩⟩
    - n : ⟨e,t⟩

(18) High gender
      *2nd feminine

✗
- [FEM] : ⟨⟨e,t⟩,⟨e,t⟩⟩
- πP : e
  - π : [−author, +participant] ⟨⟨e,t⟩,e⟩
  - n : ⟨e,t⟩

(19) No gender
      2nd person

πP : e
- π : [−author, +participant] ⟨⟨e,t⟩,e⟩
- n : ⟨e,t⟩

(20) a. Low gender
          3rd feminine:

DP : e
- D : ⟨⟨e,t⟩,e⟩
- πP : ⟨e,t⟩
  - π : [−author, −participant] ⟨⟨e,t⟩,⟨e,t⟩⟩
  - ⟨e,t⟩
    - [FEM] : ⟨⟨e,t⟩,⟨e,t⟩⟩
    - n : ⟨e,t⟩

b. Low gender
    2nd feminine:

πP : e
- π : [−author, +participant] ⟨⟨e,t⟩,e⟩
- ⟨e,t⟩
  - [FEM] : ⟨⟨e,t⟩,⟨e,t⟩⟩
  - n : ⟨e,t⟩

- This assumes the locus of gender varies parametrically (Ritter 1993; cf. Kramer 2016a).
- Per Ritter (1993), Hebrew full DPs have low gender. Hebrew 2nd-person pronouns also mark gender, as expected if (pro)nominal gender is consistently low.

(21) Hebrew sɢ possessive clitic pronouns

	MASC.	FEM.
1st	*i*	*i*
2nd	*xa*	*ex*
3rd	*o*	*a*

(Glinert 1989)

4.3 Interim summary of person and gender in pronouns

- Two positions for gender → two kinds of languages with gender in pronouns
  - ▸ Languages that can mark gender only in the third person (42 out of 55)
  - ▸ Languages that can mark gender in all persons (6 out of 55)
- Unexplained patterns, so far due to accidental syncretism:
  - ▸ 17 languages with 3rd-person gender only mark it only in the singular.

- ▸ 6 languages of 55 mark gender in 2nd and 3rd person, but not in 1st person.
- ▸ 1 language of 55 marks gender **only** in 2nd person.
- ▸ **No** languages mark gender in 1st person but not 2nd.

4.4 An asymmetry between participants?

- ■ 2nd person is more likely to mark gender than 1st person:
  - ▸ 13 of 55 languages with pronominal gender mark gender on participants.
  - ▸ 6 of the 13 mark gender on all participants.
  - ▸ 7 of the 13 mark gender on 2nd person but not 1st person participants
  - ▸ **None** mark gender on 1st person but not on 2nd person.
- ■ For us, all 13 languages with participant pronoun gender have low gender.
  - ▸ Is the absence of languages with gender on 1st but not 2nd person accidental, or systematic?
  - ▸ Is there another structural distinction that might explain a systematic gap of this sort?
- ■ We need to look at more languages, and more closely at gender on participant pronouns.

5 Interaction with number

- ■ So far, one potential case of systematic morphological upstaging—person and gender—has been attributed instead to limits on semantic composability.
- ■ What of the association of gender marking with **singular number**?
  - ▸ 19 of 55 languages with pronominal gender mark gender only in the singular.
  - ▸ 42 of 55 mark gender only in 3rd person; of these, 17 mark gender only in the singular.
  - ▸ Only 2 of 55 mark gender only in the plural (Marshallese and Palauan)
  - ▸ Of 13 languages that mark gender on participant pronouns, 2 mark gender only in the singular (Iraqw and Hausa).
- ■ Table 2 summarizes the distribution of gender marking by number for languages that mark gender only in the third person.[4]

ALL NUMBERS	SINGULAR ONLY	PLURAL ONLY
Albanian, Arapesh, Asheninca, Basque, Catalan, Czech, Godie, Greek, Halkomelem, Ho, IsiXhosa, Kaingang, Kannada, Latin, Latvian, Mixteco, Mohawk, Pakaasnovos, Polish, Romanian, Sotho, Yimas, Zapoteco	Ainu, Awtuw, Chinook, Cubeo, Dieri, Dutch, (Old) English, German, Hinuq, Lushootseed, Pomo, Somali, Swedish, Telugu, Welsh, Wolaytta, Xokleng	Marshallese, Palauan
23	17	2

Table 2: *Gender marking by number in languages where gender is marked in 3rd person only*

4. The list of languages where gender is marked in all numbers includes languages that do not make any number distinctions in the third person.

5.1   Deriving upstaging from the relative scope of gender and number?

■ Could we adapt our story on the person–gender asymmetry to account for gender vs. number?

▶ E.g.: "Gender is always semantically compatible with singulars, but can only compose in plurals (or other non-singular numbers) if it composes below semantic number"

■ **First obstacle**: no obvious semantic reason **why** gender must compose before number.

■ **Second obstacle**: regardless of what assumptions we make about the syntactic position of number features, we cannot account for the distributions of languages in our sample.

▶ Suppose first that Num—the syntactic position of semantically interpreted number features— occurs in a **fixed** position in the nominal functional spine.

- Recall that on our account, all languages where gender is limited to the 3rd person have **high** gender (at least on pronouns). Is high gender above or below Num?

- Neither option would derive the asymmetry: some gender-only-in-3rd languages mark gender in all numbers, others only in the singular (and two only in the plural)

▶ Alternatively, could **number**, like gender, be either high or low?

- I.e. when **high**, above even high gender (allowing gender in both singular and plural); when **low**, below both positions for gender (thus precluding gender when marked).

- Indeed there are many proposals that number can occur in multiple positions within the nominal spine: when high, on Num (or perhaps on D), when low, on *n* (Acquaviva 2008; Wiltschko 2008; Kramer 2016b; others).

- However, **low** number features have been associated with lexical or idiosyncratic inter- pretations, while **high** number results in regular semantic plurality.

- We have no evidence of plural pronouns being restricted to lexical or idiosyncratic plural interpretations, so proposing low number for pronouns would be purely stipulative.

▶ What if the order of heads in the nominal spine could **vary**, with Num either above or below the position of high gender features?

- Limited evidence for this fine variation in nominal functional structure.

■ **Final obstacle**: evidence from morpheme order, when it *is* available, goes in the other direction.

▶ For example: Catalan marks gender only in 3rd person (→ gender high), in both singu- lar and plural (→ number below gender?)

▶ But the plural suffix is **outside** the vowel marking feminine gender, as shown in (22).

(22)   Catalan nominative pronouns

		SING.	PLUR.
1		*jo*	*nosaltres*
2	NEUTRAL	*tu*	*vosaltres*
	FORMAL	*vostè*	*vostès*
3	MASC.	*ell*	*ell-s*
	FEM.	*ell-e*	*ell-e-s*

(Hualde 1992)

5.2 Upstaging by morphological stipulation?

■ In the absence of other explanations, the upstaging of gender by number could result from something like the ranking expressed in (23):

(23) Realize Number Over Gender
   In a competition between two VIs α and β, for which no other principle determines a ranking, and where α and β differ in that α realizes features relating to gender (broadly construed) while β realizes features relating to number, β wins.

■ An illustration: Awtuw (paradigm in (2))

■ Assume plural number and feminine gender are encoded by single marked features—for concreteness, [GROUP] and [FEM].

   ▸ *rom* ⇔ [GROUP]
   ▸ *tej* ⇔ [FEM]

■ (23) ensures a pronoun with both [FEM] and [GROUP] is realized as *rom*, not *tej*, by requiring that the VI realizing [GROUP] apply first.

(2) Awtuw pronouns (repeated)

		SING.	DUAL	PLUR.
1		*wan*	*nan*	*nom*
2		*jen*	*an*	*om*
3	FEM.	***tej***	*ræw*	***rom***
	NON-FEM.	*rej*		

(Feldman 1986)

■ A possible challenge: proposals that **singular**, not only plural, can be a marked number in some languages (Konnelly & Cowper 2020 for English; Kumaran 2023).

   ▸ Combined with the hierarchy above, marked singular in English would predict that gender would appear only in the **plural**, contrary to fact.

■ However, number and gender remain a place to evaluate tie-breaking mechanisms in realizational morphology.

6 Conclusions

■ Any Pāṇinian realizational morphology will arrive at ties that cannot be resolved.

■ Our project aims to identify typological patterns of **upstaging**—cases where one feature seems to 'win' over another in many unrelated languages—as a way of finding potential irreducible hierarchies among features in morphological realization.

   → Yet, whenever possible, our goal should be to explain systematic asymmetries with existing theoretical tools, rather than positing powerful new mechanisms.

■ We have uncovered two systematic patterns of upstaging in pronominal paradigms, both involving gender:

   ▸ The pattern involving **person** and gender, we explain in terms of independent restrictions on the semantic composability of syntactic features → NOT A STIPULATED RANKING
   ▸ The pattern involving **number** and gender, however, remains a potential case of an arbitrary hierarchy in morphological realization → POTENTIALLY A STIPULATED RANKING

■ Only scratched the surface—haven't even gotten to some other obvious cases, e.g. tense upstaging agreement in many languages—and there is much more to be done.

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