
THE MORPHOLOGY AND SYNTAX OF GENDER: A LITTLE n APPROACH

Ruth Kramer

Georgetown University / rtk8@georgetown.edu
Annual Conference on African Linguistics 45

1 INTRODUCTION¹

Gender = the sorting of nouns into two or more classes, as reflected in agreement (Corbett 1991)

- Arbitrary gender = idiosyncratic gender most often on inanimates (masculine, feminine, neuter)

(1)	a. French	b. Hausa	c. Russian
	matin	sáafiyáa	utro
	morning.M ²	morning.F	morning.NEUT
	‘morning’	‘morning’ (Corbett 1991:53)	‘morning’

- Natural gender = biological gender or sex (male, female, unsexed)

Gender has been the focus of less theoretical research than the other phi features...

- In many major works on phi features (e.g., Harley and Ritter 2002, Harbour, Adger and Béjar 2008), gender plays a supporting role at best.

... and there is also less consensus over fundamental morphosyntactic questions about gender.

- If there’s a NumP, is there a GenP?
- What is the nature of gender features across languages?

Today: results from a research project that attempts to fill in some of the morphosyntactic gaps about gender: develop a morphosyntactic analysis of gender that is broadly applicable across languages

Three Guiding Questions

- Locus: where are gender features in the syntax?
- Interpretability: are gender features interpretable on nouns/DPs (like number and person)?
- Morphological realization: how are the gender features found in the syntax realized at PF?

¹ Many thanks to Héctor Campos, Sandy Chung, Jorge Hankamer, Jim McCloskey, Mark Norris, Donna Lardiere, Mark Baker, Richard Kayne, Matt Wolf, Peter Austin, Azeb Amha, James Rupp and audiences at the 15th International Morphology Meeting, Yale, Rutgers, NYU, the University of Delaware, the University of Maryland, College Park and the University of California, Santa Cruz for highly useful comments and questions on portions of this work. Special thanks to the Amharic consultants whose judgments shaped this work, especially Senayit Ghebreyiwet, Betselot Teklu, Hileena Eshetu, Harya Tarakegn, Mehret Getachew Tadesse and Girma Demeke.

² Gloss abbreviations: 3 – third person, ACC – accusative ADJ – adjectivalizer, AFFIRM – affirmative, AN – animate, AUX – auxiliary, C – complementizer, DEF – definite marker, F – feminine, FEM – feminine affix, FOC – focus, FUT – future tense, GP – gender prefix, HAB – habitual, INT – intensive, INST – instrument, M – masculine, NEG – negation, NEUT – neuter, NOM – nominative, PAST – past tense, PF/PERF – perfective aspect, PL – plural, S – singular, STA – stative.

Plan:

- Amharic (Ethiosemitic) case study: the gender system, why it is difficult to account for (Section 2)
- The proposal (Section 3; Kramer 2013)
 - Gender feature located only on nominalizing head *n* (see e.g., Lecarme 2002, Ferrari 2005)
 - Two kinds of gender features: interpretable and uninterpretable
 - Licensing conditions link roots to types of *n*
 - Amharic-internal independent evidence for *n* as locus of gender
- The predictions of the proposal (Section 4)
 - The interaction of nominalizations and gender
 - Somali case study: complex gender/number interaction
 - A typology of attested (and impossible) two-gender systems (if time)
- Conclusion and thoughts on Bantu noun class (Section 5)

2 CASE STUDY: GENDER IN AMHARIC*2.1 The Amharic Gender System*

Amharic (Afroasiatic (Semitic); Ethiopia) recognizes two genders: masculine and feminine.

- No consistent morphophonological correlates of gender on nouns (Leslau 1995:161, Cohen 1970:71)
- Gender indicated by agreement on e.g., the definite marker, demonstratives, verbs

- (2)
- | | |
|-------------|----------------|
| - <i>n</i> | ‘the (m. sg.)’ |
| - <i>na</i> | ‘the (f. sg.)’ |

The Amharic system for assigning gender is heavily reliant on natural gender.

- The gender of an animate noun is assigned exclusively according to its natural gender (Leslau 1995: 161ff., Hartmann 1980:278ff).
 - A few male-female pairs have different roots (mostly kinship terms, domesticated animals).

(3) Different Root Nominals

abbat	‘father’	innat	‘mother’
bal	‘husband’	mist	‘wife’
säw	‘man’	set	‘woman’
wäyfän	‘bull calf’	gidär	‘heifer’

- But the vast majority have the same root.

(4) Same Root Nominals

a. tämari-w	tämari-wa
student-DEF	student-DEF.F
the (male) student	the (female) student

b. muǰirra-w	muǰirra-wa
wedding.participant-DEF	wedding.participant-DEF.F
groom	bride

c. halafi-w person.in.charge-DEF the (male) person in charge Walta hed12a2	halafi-wa person.in.charge-DEF.F the (female) person in charge Walta hed01a2
d. wiŋŋa-w dog-DEF the (male) dog	wiŋŋa-wa dog-DEF.F the (female) dog

- The default (unmarked) gender is masculine.
 - If the natural gender of the referent is unknown, then the nominal is masculine.

(5) his'an-u wänd nāw set?
baby-DEF.M male is female?
'Is the baby a he or a she?'³ (Leslau 1995:164)

- The nominal *nobody* takes masculine agreement (cf. Roca 1989 on Spanish)

(6) balläfaw sammint betä kristiyan mannimm al-hed-ä-mm
last week church nobody NEG-go.PF-3MS-NEG
'Last week, nobody went to church.' (Leslau 1995:122)

- Exceptionally, certain animals are feminine if their gender is unknown/irrelevant (Leslau 1995:166, Hartmann 1980:281, Cohen 1970:75).

(7) a. bāk'lo-wa b. ayt'-wa c. k'äbäro-wa d. ŋärärit-wa
mule-DEF.F mouse-DEF.F jackal-DEF.F spider-DEF.F
'the mule' 'the mouse' 'the jackal' 'the spider'

- If the natural gender of the referent for one of these animal nouns is known, though, it 'overrides' the feminine default, showing the dominance of natural gender within the system.

(8) ayt'-u
mouse-DEF.M
'the male mouse'

As for inanimate nominals, almost all of them are masculine (Leslau 1995:161, Cohen 1970:71).

(9) Masculine Nouns (inanimate)

mot	'death'	wididdir	'competition'
kibir	'honor'	bet	'house'
wänbär	'chair'	dimmir	'total, sum'
dingay	'stone'	wäräda	'district'
kibab	'circle'	gazet'a	'newspaper'

³ The noun *his'an* 'baby' is a same-root nominal, i.e., it can be either masculine or feminine depending on whether it refers to a male or female infant.

Only a handful of inanimate nouns are feminine.⁴

(10)	<u>Feminine Nouns (inanimate)</u>			
	mäkina	‘car’	s’ähay	‘sun’
	azurit	‘whirlpool’	kätäma	‘city’
	agär	‘country’	betä kristiyan	‘church’

As noted earlier, there is no consistent morphophonological correlate of gender across nominals.

- However, in some same-root nominals, the female form has the suffix *-it*.

(11)	a. lidʒ	lidʒ-it	b. aroge	arog-it ⁵
	boy, child	girl	old man	old woman
	c. mänäk ^w se	mänäk ^w s-it	d. t’ot’a	t’ot’-it
	monk	nun	ape	female ape

- The suffix *-it* is neither a necessary nor a sufficient condition for feminine gender in Amharic.

(12)	<u>Feminine, No -it</u>		<u>Masculine, End in -it</u>	
	s’ähay	‘sun’	kulalit	‘kidney’
	agär	‘country’	särawit	‘army’
	tämari-wa	‘the (female) student’	mogzit-u	‘the (male) tutor’ (Cohen 1970:74)

Upshot:

- Arbitrary gender is only relevant in Amharic for the small number of feminine inanimate nouns, and the even smaller number of feminine default animals.
- Otherwise, the natural gender (or lack thereof) determines the gender of a nominal in Amharic.
 - If a nominal refers to a male referent, the nominal is masculine.
 - If a nominal refers to a female referent, the nominal is feminine.
 - If a nominal refers to a referent whose natural gender is unknown, or which does not have natural gender, the nominal is masculine (by default).
- Amharic is a language that has almost lost arbitrary gender (cf. Ge’ez; Tropper 2002)

2.2 Previous Approaches to Gender

Gender is not straightforward: i.e., a feature on N that is idiosyncratically associated with each noun

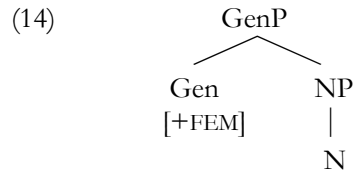
- Misses the robust generalization in Amharic that male entities have masculine gender and female entities have feminine gender
- Many languages contain nouns that can have either masculine or feminine gender depending on the natural gender of the referent (Corbett 1991:181-2, Wechsler and Zlatić 2003, Alexiadou 2004).
 - ‘Common gender’ nouns / same-root nominals

⁴ It is difficult to calculate the exact number of feminine nouns since nouns are not listed in Amharic dictionaries with their gender (indicating how small a role arbitrary gender plays in Amharic). After informally surveying the gender sections of three grammars (Leslau 1995, Hartmann 1980 and Cohen 1970), as well as performing some basic searches in a newspaper corpus (Demeke and Getachew 2006), my best estimate is that there are about 20-30 feminine nouns.

⁵ The final vowels in these nouns are deleted when the *-it* suffix is added in order to avoid hiatus. See Leslau 1995:36.

- (13)
- a. Amharic (*tāmari* ‘student,’ *bakim* ‘doctor’; see (4))
 - b. Spanish (*estudiante* ‘student,’ *patriota* ‘patriot,’ *testigo* ‘witness’; Harris 1991)
 - c. Archi (Caucasian) (*lo* ‘child,’ *misgin* ‘poor person’ Corbett 1991:181)
 - d. Greek (*odigos* ‘driver,’ *musikos* ‘musician,’ *ipurgos* ‘minister’ Alexiadou 2004:40)
 - e. Maa (*aputáni* ‘wife’s parent,’ *mɔdái* ‘fool,’ Payne 1998:173)
- It would be undesirable to have two homophonous, synonymous nouns for each of these cases, one with masculine gender and one with feminine gender.⁶

Gender does not project: Gender is also not the head of its own projection (Picallo 1991, Bernstein 1993).



- Gender is not often phonologically expressed as a separate morpheme from the nominal (unlike number)
- Gen would be (for some nouns) a syntactic head comprised only of uninterpretable features, which is undesirable from a minimalist standpoint (cf. Chomsky 1995 on Agr nodes).
- The original evidence for GenP from Catalan is not compelling, and the proposal has been generally disputed (Ritter 1993, Alexiadou 2004, Kramer 2009).

Is gender assigned in the lexicon?: A handful of morphosyntactic analyses of gender explicitly connect natural and arbitrary gender via a lexical rule, avoiding some of the problems above.⁷

- Spanish: Roca 1989, Harris 1991, Italian: Riente 2003, Ferrari-Bridgers 2007, Greek: Ralli 2002, Spanish, Italian, Hebrew, Greek: Alexiadou 2004, Romance, Bantu: Carstens 2010, 2011

Abstracting away from the details, these analyses are almost all structured similarly.

- Nouns are listed in the lexicon with either specified gender (e.g., inanimates) or unspecified gender (e.g., common gender nouns).
- A noun with unspecified gender receives gender via a lexical rule that refers to natural gender.

- (15) **Human Gender: Lexical Redundancy Rule (Spanish)**
 [FEMALE] → f / ___ [HUMAN] (Harris 1991:51, 32a)

However, this approach runs into a few problems with Amharic (Kramer 2009, 2013).

- Animals with a feminine default gender have a fixed default gender that is ‘overridden’ with natural gender.

- (16)
- | | |
|---|---|
| <p>a. ayt'-wa
 mouse-DEF.F
 ‘the mouse, the female mouse’</p> | <p>b. ayt'-u
 mouse-DEF.M
 ‘the male mouse’</p> |
|---|---|

- Their gender thus seems to be simultaneously specified (feminine default) and unspecified (corresponds to the natural gender of the referent).⁸

⁶ Additionally, gender as a feature on N would invalidate the Chomsky-Borer hypothesis about linguistic variation, since there would be cross-linguistic variation in the features on a **lexical**, not functional, head (Kayne 2005).

⁷ See also Pollard and Sag 1994:Ch.2 and Wechsler and Zlatić 2003:Ch. 4 for HPSG analyses that fit this description.

- These analyses generally ‘convert’ natural gender to the gender feature used in the syntax.
 - However, in Amharic, this ‘conversion’ would have to happen for almost every animate noun. This is overly complicated – why not have the natural gender feature simply **be** the gender of a given nominal...
 - ...especially given that almost half of the languages surveyed in WALS rely **only** on natural gender for gender assignment (53/112 ; Corbett 2013a)

Another Perspective: much morphological research of the last twenty years has been conducted in the non-lexical framework Distributed Morphology (DM; Halle and Marantz 1993, among many others)

- In DM, there are no pre-syntactic lexical rules – morphological operations occur in the syntax (e.g., head movement) or during post-syntactic PF (e.g., affixation, cliticization, etc.)
- The lexicon itself is distributed: there is a pre-syntactic lexicon containing feature bundles, which are given morphophonological content at PF and interpreted at LF(/the Encyclopedia).

Gender is often seen as a quintessentially lexical phenomenon: can the above facts be successfully captured without pre-syntactic lexical rules and with a distributed lexicon?

3 THE MORPHOSYNTAX OF GENDER: A NEW APPROACH

Background: a productive line of morphological research within Distributed Morphology has been to decompose lexical categories (like N) into a category-neutral root ($\sqrt{\quad}$) and a categorizing head (Marantz 1997, Arad 2003 among many others).



Is the gender feature of a nominal on the root or on n ?

Gender on the Root? No.

- Same-root nominals (e.g. *tāmari* ‘student’) would have to have two homophonous, synonymous roots
- Each root would have a syntactically active feature (*pace* Borer 2005, Acquaviva 2009, Embick and Noyer 2007) – and moreover, a feature which is associated with a particular category

Gender on n ? Yes. Perhaps a gender feature comprises part of the nominalizing head n (Ferrari 2005, Kihm 2005, Lowenstamm 2008, Acquaviva 2009).

⁸ Since lexicalism assumes a powerful generative lexicon, it is not out of the question for an augmented/modified lexicalist approach to assign gender properly to feminine default animals – although the analysis would have some resulting conceptual problems and, as far as I can tell, none of the lexicalist analyses on the market take this approach. Please feel free to ask about this.

Roots have **licensing conditions**: licit in the context of a $n[-FEM]$ or $n[+FEM]$ (Acquaviva 2009).

- This allows for a simple treatment of same-root nominals (*tāmari* ‘student’): no licensing conditions!
- What are these licensing conditions?
 - Typical DM answer: conditions on morphophonological insertion of a particular n (Harley and Noyer 2000, Acquaviva 2009); adopt this answer for now (please ask if curious)

However, these analyses also have drawbacks.

- They fail to discuss how the gender features on n relate to natural vs arbitrary gender.
 - This means that they have difficulty accounting for Amharic. Most pressingly, the **feminine default animals** remain problematic.⁹
- The n analyses also fail to discuss the syntactic properties (e.g., interpretability) of the gender features.¹⁰

Upshot: n analyses are a step forward, but more needs to be done.

- (Sidenote: some analyses posit that gender is on **both** n and the root: Kramer 2009, Steriopolo and Wiltschko 2010, Atkinson 2012, Duek to appear)
- Requires a syntactically active, category-specific feature on a root
- Less parsimonious: same data can be captured with only gender on n)

3.1 The Proposal

We’ve seen two main strands of research:

- Strand 1: address natural and arbitrary gender, lexicalist tradition
- Strand 2: do not address both natural and arbitrary gender, non-lexicalist
- Neither discuss interpretability, and neither can quite cover Amharic’s gender system.

Now: develop an analysis that also accounts for all of Amharic gender and deals with interpretability

Ingredient 1 (of 3): Natural gender is an interpretable gender feature housed on some types of n .¹¹

(19) **Types of n (incomplete list)**

- n i [+FEM] Female natural gender
- n i [-FEM] Male natural gender
- n No natural gender (or natural gender irrelevant/unknown) = ‘plain’ n

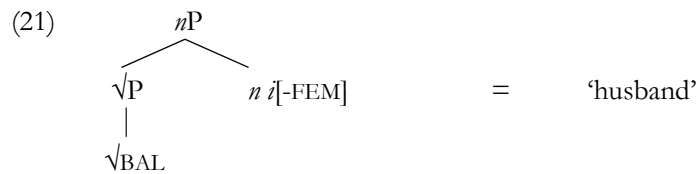
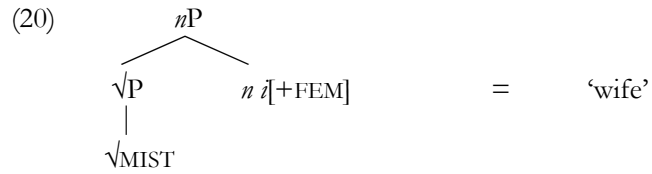
Ingredient 2: Licensing conditions determine which roots combine with which flavor of n (Acquaviva 2009).

- Each different root nominal (*bal* ‘husband’ and *mist* ‘wife’) is licensed under either $n[+FEM]$ or $n[-FEM]$.

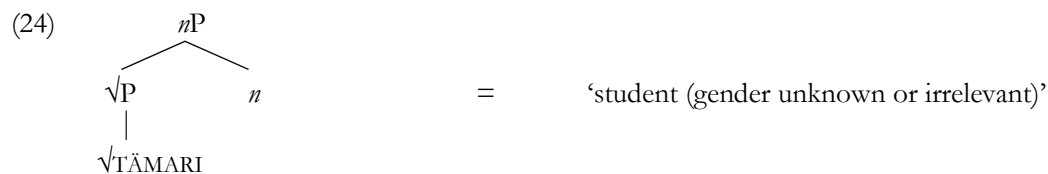
⁹ If the feminine default animals are treated like same-root nominals, then it’s unclear how they receive feminine gender as a default. If they are treated as licensed only with $n[+FEM]$, then it is unclear how they could have masculine gender.

¹⁰ The exception is Kihm 2005 where arbitrary gender is checked/deleted by entering into an Agree relation with an interpretable version of the same feature (cf. Picallo 2008). However it remains unclear what the interpretation of that feature is (it is not natural gender).

¹¹ The interpretation of these features might be as simple as [$\lambda x.x$ is male] and [$\lambda x.x$ is female]. They take an entity/individual and return true if that entity is female for [+FEM] or male for [-FEM]. Alternatively, the gender feature could trigger a presupposition that the discourse referent associated with the nominal is female or male, similar to gender features in pronouns (see e.g., Heim and Kratzer 1998 among many others).



- Same root nominals (*tämari* ‘student’): licensed under any *n* in (19).



The nominal in (24) will trigger masculine agreement, since masculine is the default.

- I assume morphophonological exponents are inserted after syntax.
- These exponents (Vocabulary Items) are pairings of bits of morphophonology and a set of features.
- There may not be a one-to-one match between the feature bundle in the syntax and the features of the Vocabulary Item inserted to realize it – and that’s ok.
 - Morphophonological exponents are often underspecified wrt syntactic information.

Vocabulary Items compete for insertion at a particular feature bundle according to the Subset Principle (Halle 1997): insert the Vocabulary Item that matches the most features on a feature bundle, **without containing any features not present in the bundle**.

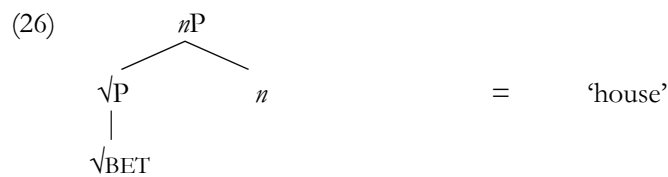
(25) **Vocabulary Items for the Definite Marker**¹²

- a. D, [DEF], [+FEM] ↔ *-na*
 b. D, [DEF] ↔ *-u*

- Assume that definite D agrees in gender with *n* (however this is accomplished).
- A definite D with a [+FEM] feature will be realized as (25)a *-na*.
- A D with a [-FEM] feature will be realized as (25)b *-u* and so will a D with no gender feature ((25)a *-na* has a feature not present on the feature bundle)
- Overall: anything but feminine = ‘masculine’ exponents (elsewhere)

But what about the inanimates and the feminine default animals? The masculine inanimates in fact come for free given what has already been sketched.

- They are licensed under ‘plain’ *n* since they don’t have natural gender.



- This will result in masculine gender as a default, exactly like when the natural gender is unknown/irrelevant for an animate nominal.

We just need the final ingredient for the feminine default animals and the feminine inanimates.

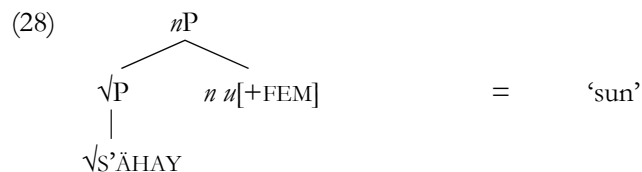
Ingredient 3: The feminine arbitrary gender on inanimates and feminine default animals is an uninterpretable [+FEM] feature on *n*.

(27) **Types of *n* (complete)**

- a. *n i* [+FEM] Female natural gender
 b. *n i* [-FEM] Male natural gender
 c. *n* No natural gender (or natural gender irrelevant/unknown)
 d. *n u* [+FEM] **Feminine arbitrary gender**

Language in general often has uninterpretable and interpretable versions of the same feature (e.g., number on nominals and on T), even on the same head (e.g., Pesetsky and Torrego 2007: Q feature on C).

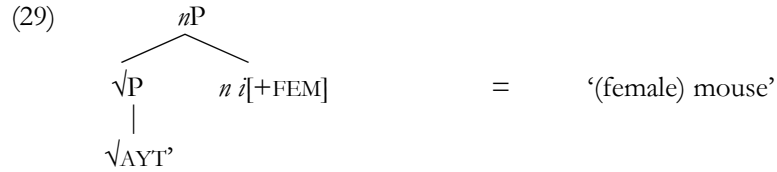
Feminine inanimate nominals are only licensed under *n u*[+FEM].



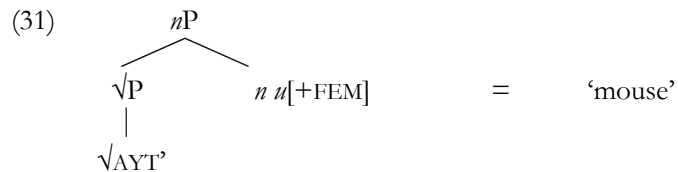
¹² The definite marker is always *-u* when the noun is plural regardless of gender (Leslau 1995:155). In terms of the Vocabulary Items for the definite marker in (25), this can easily be captured by having a [-PL] feature as part of the features of the Vocabulary Item *-na*. Then, *-na* will be inserted for the definite determiner associated with singular feminine nominals, and *-u* for the definite determiner for all other nominals.

- They surface with the same kind of agreement as a female nominal (same [+FEM] feature on the same head – it’s just not interpreted).

Feminine default animals are licensed under the interpretable *n*’s ((19)ab), similar to a same-root nominal.



However, when their natural gender is not known/relevant, they are licensed under the uninterpretable *n*[+FEM] (and not a ‘plain’ *n*).



- So, when the natural gender of a feminine default animal is known, the nominal will have the natural gender of the referent, and when the natural gender is unknown, it will have feminine gender.¹³

Overview and Assessment:

- Gender assignment system that is almost entirely based on natural gender as an interpretable feature on *n*, and ‘masculine’ forms as a default for anything that does not have a [+FEM] on *n* (cf. Percus 2010)
- The analysis also accounts for the residue of feminine arbitrary gender in the language using an uninterpretable version of the same feature on the same head: *n* *u*[+FEM]¹⁴

More successful than previous analyses in that...

- All the Amharic facts are accounted for
- No more ‘calculation/conversion’ of gender from natural gender
- The analysis is explicit about the interpretable vs uninterpretable properties of the gender feature¹⁵

¹³ This requires same-root nominals in Amharic to have licensing conditions, because they must **not** be licensed under *n* *u*[+FEM] (so that they do not have a feminine default).

¹⁴ Why are there no human nominals licensed under uninterpretable *n*[+FEM]? Perhaps this is because natural gender is more relevant/detectable for humans than animals. Cf. Spanish where the majority of the animals have fixed gender, but only a handful of human nominals do (Harris 1991).

¹⁵ I assume that uninterpretable features do not cause a crash (Legate 2002, Pesetsky and Torrego 2007:fn.15, Epstein et al. 2010, Carstens 2011). Unvalued features cause a crash, and uninterpretable features are simply ignored by the semantics. Arbitrary gender is uninterpretable but valued, so it would not cause a crash in this approach.

3.2 Additional Evidence for the Analysis

The analysis is independently supported by additional evidence from Amharic including...

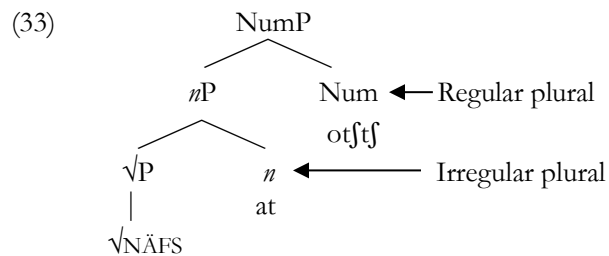
- the interaction of gender and number
- the feminine suffix *-it*

Amharic has a regular plural suffix and a set of irregular pluralization strategies (different suffix, partial reduplication, phonotactic changes, etc.)

- (32) a. *bet-otʃʃ* b. *näfs-at*
 house-PL soul-PL
 ‘houses’ = Regular Plural ‘souls’ = Irregular Plural

- In Kramer 2009, 2012, I show how irregular plural morphology does not compete with the regular plural suffix for morphophonological insertion at the same node.
 - There are double plurals: *näfs-at-otʃʃ* ‘souls’
 - Every nominal with an irregular plural can be alternatively regularly pluralized: *näfs-otʃʃ* ‘souls.’
 - Cf. Maay (Paster 2010)
- Irregular plurals also show characteristics of the local relationship between a categorizing head and its root (Marantz 1997: root-specificity, paradigmatic gaps, idiosyncrasies), whereas regular plurals do not.

This led me to propose that irregular plural morphology is a realization of *n* (cf. Lecarme 2002 on Somali), whereas regular plural morphology is the realization of Num.



If *n* has a gender feature and a plural feature, it is predicted (*ceteris paribus*) (i) that irregular plurals in Amharic will be capable of varying with gender, and (ii) regular plurals will not be (since they do not have gender).

Both predictions are borne out!

- (i) Certain irregular plurals are gendered: they take separate masculine and feminine suffixes.

- (34) **Gendered Irregular Plural: *k'iddus***
 k'iddus ‘saint’
 k'iddus-an ‘saints’ (masc. pl. or mixed group)
 k'iddus-at ‘saints’ (fem. pl.)

- (ii) No regular plurals vary with respect to gender; both masculine and feminine nominals take *-otʃʃ*.

(35)	<u>Masculine</u>		<u>Feminine</u>	
	bet-otʃtʃ	‘houses’	mākina-wotʃtʃ	‘cars’
	nägär-otʃtʃ	‘things’	agär-otʃtʃ	‘countries’
	abbat-otʃtʃ	‘fathers’	innat-otʃtʃ	‘mothers’
	tämari-wotʃtʃ	‘(male) students’	tämari-wotʃtʃ	‘(female) students’

The restriction of gendered plurals to irregular plurals is puzzling unless gender is a feature on *n*.

Plurals and *-it*: There is a curious asymmetry in the behavior of the feminine suffix *-it* wrt the regular and irregular plural.

- Nominals ending in *-it* are freely regularly pluralized.

(36)	a. mänäk ^w s-it-otʃtʃ	b. arog-it-otʃtʃ
	nun-FEM-PL	old.person-FEM-PL
	nuns	old women
	c. muʃirr-it-otʃtʃ	d. t’ot’-it-otʃtʃ
	wedding.participant-FEM-PL	ape-FEM-PL
	brides	female apes

- However, they cannot be irregularly pluralized.

(37)	<u>Singular</u>	<u>Irregular Plural</u>	<u>*Feminine Irregular Plural</u>
	a. mänäk ^{wse} (-it)	mänakos-at	*mänakos-it-at, *mänakos-at-it
	monk(-FEM)	monk-PL	
	b. mämhir(-t)	mämhir-an	*mämhir-t-an, *mämhir-an-t
	teacher(-FEM)	teacher-PL	

This asymmetry is predicted if gender features are on *n*.

- The feminine suffix and the regular plural suffix are independent heads in the syntax (*n* and Num, respectively) and don’t compete for morphophonological insertion at the same slot.
- However, the feminine suffix and any irregular plural affixes **compete for insertion** at the *n* node.
 - Only one Vocabulary Item may be inserted.
 - Why does the irregular plural ‘win’ the competition for *n* when the nominal is plural? See fn.16

The contrast between (36) and (37) falls out if gender is on *n*.

Summary: there is independent evidence for gender being on *n* in Amharic from gendered plurals and the interaction of *-it* with the plural *n*.

¹⁶ When two Vocabulary Items both contain the same number of features matching the morpheme, the individual features of the Vocabulary Items are inspected wrt an independently-motivated feature hierarchy (Noyer 1997, Harley and Noyer 1999). The VI that uniquely has the feature highest on the hierarchy (or which has the fewest nodes in the hierarchy) ‘wins’ and is inserted. In all the feature hierarchy approaches, plural features are ranked above gender features, and thus the irregular plural is predicted to be inserted rather than the feminine suffix.

4 PREDICTIONS OF THE ANALYSIS

This Section: testing the predictions of the analysis from a larger perspective

- Nominalizations in Amharic and across languages (Section 4.1)
- A prediction confirmed: number/gender in Somali (Section 4.2)
- A partial typology of possible two-gender systems (Section 4.3)

4.1 Nominalizations across Languages

n is used not just to nominalize roots, but also other categories (Marantz 1997, Arad 2003).¹⁷

- (38)
- n* + *v*P = deverbal noun
 - n* + *a*P = deadjectival noun
 - n* + *n*P = denominal noun

If *n* has a gender feature when it combines with roots, it is possible that it could carry a gender feature when it combines with phrases (Ferrari(-Bridgers) 2005, 2008, Markova 2010).

This prediction is borne out: nominalizations are often gendered across languages.

- French deadjectival nouns are feminine (*la faibl-esse* ‘weakness’, *la modern-ité* ‘modernity’)
- Middle Egyptian deverbal nouns with *-t* are feminine (*šm-t* ‘proceeding’ Gardiner 1957:223)
- Luganda denominal adjectives denoting humans are Class 1 (*gez̄i* ‘clever’ → *mu-gez̄i* ‘clever person’ (Ferrari 2005:56))
- Archi (Caucasian) denominal nouns ending in *-kul* are feminine (*mu-kul* ‘beauty’ Corbett 1991:28)

Question: do interpretable and uninterpretable gendered *n*’s **both** participate in nominalization?

- Yes: evidence from Amharic

Interpretable Gendered *n* Example: Amharic Gentile Nouns: an adjective derived from a country can be nominalized by an interpretable *n* to make a person of a particular gender from that country.

- (39)
- | | | |
|--------------------------------------|---|------------------------------------|
| a. ityop’p’iy-awi ‘Ethiopian (adj.)’ | → | ityop’p’iy-awi-t ‘Ethiopian woman’ |
| Ethiopia-ADJ | | Ethiopia-ADJ-FEM |

- (40)
-
- ```

graph TD
 nP --> aP
 nP --> ni["ni [+FEM]"]
 aP --> vP
 aP --> a
 vP --> root["√ITYOP'P'YA"]
 a --> awi["-awi"]
 ni --> it["-it"]

```

Uninterpretable Gendered *n* Example: Amharic Diminutives: Amharic has a highly productive diminutive formation for both inanimate and animate nominals (Leslau 1995:167-169).

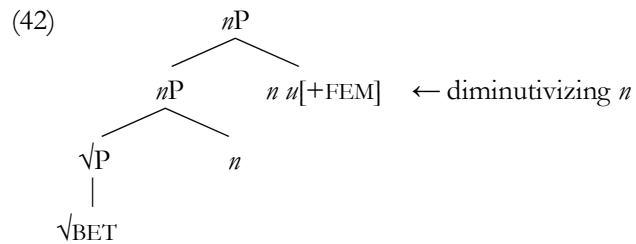
<sup>17</sup> Sometimes it is ambiguous whether *n* is attaching to already formed *x*P or to a root (see Arad 2003). I will assume *n* is attaching to already formed *x*P in all the examples below for concreteness.

- There is not a consistent phonological correlate of diminutivization, but all diminutivized nominals trigger feminine agreement.

(41) a. bet-u **Non-Diminutive**  
 house-DEF.M  
 ‘the house’

b. bet-wa t-amir-all-ätstf **Diminutive**  
 house-DEF.F 3FS-be.cute-AUX-3FS  
 ‘The (adorable little) house is cute’

- Diminutivization is a kind of denominal noun formation, and diminutive morphemes have been independently argued to be *n* (Wiltschko 2006, Steriopo 2008).
- Diminutive nominals trigger feminine agreement in Amharic without any interpretation of female natural gender = nominalization via an uninterpretable [+FEM] feature on the diminutivizing *n*.<sup>18</sup>

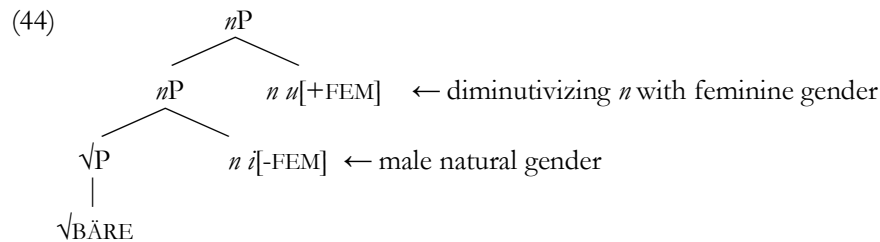


Therefore, both kinds of *n* can be used to nominalize categories in Amharic.

Question: what if a root that is licensed under a gendered *n* is diminutivized?

- In Amharic, the resulting nominal is feminine, i.e., the gender of the diminutive (feminine) is the gender of the nominal.

(43) yitstf bäre  
 this.F ox  
 ‘this (cute) ox’ (Cohen 1970:77)



- It is common (although not universal) that the gender feature on a diminutive morpheme determines the gender of the nominal (feminine: Amharic, neuter: German and Yiddish, masculine: Serbian-Croatian (Wechsler and Zlatić 2003)).

(45) Highest Gender Hypothesis: the structurally highest *n* determines the gender of the nominal (Kramer 2009, Steriopo and Wiltschko 2010, De Belder 2011).

<sup>18</sup> As well as an interpretable ‘diminutive’ feature (corresponding to the interpretation of cuteness, smallness, etc.).

Overall: Nominalizations are often gendered across languages = support for a  $n$  approach to gender.

- The gender of the highest  $n$  is the gender of the nominal
- Further support for the Highest Gender Hypothesis from Somali in the next section

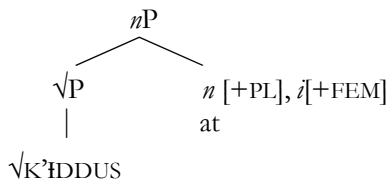
#### 4.2 Somali Number and Gender

The analysis so far makes the following interesting prediction.

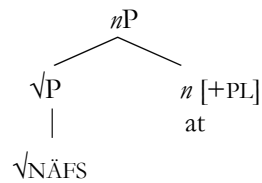
In Amharic, an irregular plural  $n$  has both:

- a plural feature
- the gender feature required to license the root (or no gender feature)

(46) a. k'iddus-at 'saint-PL' (fem. pl.)



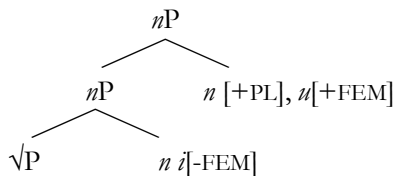
b. näfs-at 'soul-PL'



Nominalization morphemes can carry their own gender features (e.g., the feminine diminutive in Amharic).

Prediction:  $n\text{ [+PL]}$  is capable (in principle) of having its "own" gender feature, stacking on top of the  $n$  required to license the root.

(47)



**Irregular Plural Brings its Own Gender:  
Schematic Example**

This scenario is in fact instantiated in the complex number system of Somali (Afroasiatic (Cushitic), Somalia; Saeed 1993, 1999, Lecarme 2002).

Remainder of section:

- Gender system of Somali
- Number system of Somali
- Analysis: the morphosyntax of gender and number in the dialect of Somali in Lecarme 2002

The gender system of Somali is broadly similar to Amharic (cf. Spanish, French, Maay (Paster 2006)).

(48) ANIMATES

- Different-root nominals (*áabbe*<sup>19</sup> 'father' vs *booyó* 'mother')
- Same-root nominals ( $\sqrt{\text{INAN}}$  'child': *inan* 'boy, son' *inán* 'girl, daughter') (Saeed 1999:19)<sup>20</sup>
- Animate nominals that have a fixed gender (*túke* 'crow.M,' *abéeso* 'snake.F') = epicenes

<sup>19</sup> There is a fair amount of disagreement within the Somali literature about transcription. I have left transcriptions as found in the original sources, relying on more modern sources like Saeed 1993, 1999 and Lecarme 2002.

<sup>20</sup> I assume the stress-tone difference is because  $n \text{ } i\text{ [+FEM]}$  and  $n \text{ } i\text{ [-FEM]}$  are realized distinctly.

INANIMATES

- Masculine or feminine arbitrarily

*dbágax* ‘stone.M’ vs *úl* ‘stick.F’  
*gúri* ‘house.M’ vs *magaaló* ‘town.F’ (Lecarme 2002)

DEFAULT: masculine (Saeed 1999:76)<sup>21</sup>

...and I will assume it is analyzed in roughly the same way.

- Interpretable [+/-FEM] *n* for the majority of male/female animates
- Uninterpretable [+FEM]*n* or plain *n* for inanimates (and epicenes)

Somali Number: Lecarme (2002) proposes that, in the unnamed Somali dialect she investigates, plural morphology is derivational and formed via a plural *n*.

- There is no ‘regular’ plural formation in this dialect of Somali.
  - There are numerous strategies of pluralization, none of which is used for the majority of nouns.

|      |            |            |              |             |                                       |
|------|------------|------------|--------------|-------------|---------------------------------------|
| (49) | a. díbi    | ‘bull’     | dibí         | ‘bulls’     | <b>Tonal/Stress Change</b>            |
|      | b. róob    | ‘rain’     | roob-áb      | ‘rains’     | <b>Partial Reduplication with /a/</b> |
|      | c. ínan    | ‘son’      | inam-mó      | ‘sons’      | <b>Partial Reduplication with /o/</b> |
|      | d. náag    | ‘woman’    | naag-ó       | ‘women’     | <b>/-o/ Suffix</b>                    |
|      | e. maroodí | ‘elephant’ | maroodi-yáal | ‘elephants’ | <b>/-yaal/ Suffix</b>                 |
|      | f. hóoyo   | ‘mother’   | hooyo-óyin   | ‘mothers’   | <b>/-oyin/ Suffix</b>                 |
|      |            |            |              |             | (Lecarme 2002)                        |

- Evidence for the derivational/*n* character of plurality in this dialect of Somali:
  - Nouns can be doubly pluralized (N-PL-PL)
  - Nouns can take several alternative plural forms (N-PL1, N-PL2)
  - Different plural strategies select for different stems (derivational morphology is ‘choosy’)
  - Plural morphology attaches closer to the nominal stem than inflectional morphology

If we assume that derivational morphology is accomplished by category-defining heads (as Lecarme does), then, specifically, pluralization is accomplished via a plural *n*.

(50) naag ‘woman’ + -o *n*[+PL] = *naagó* ‘women’

Number and Gender in this Somali Dialect: Lecarme (2002:119) proposes that the gender of a plural noun is determined by the pluralization strategy.<sup>22</sup>

- i.e., each pluralization strategy is associated with its own gender and in some cases, this gender seems to ‘override’ the gender associated with the singular noun.

|      |         |              |         |              |                 |
|------|---------|--------------|---------|--------------|-----------------|
| (51) | a. díbi | ‘bull (m.)’  | dibí    | ‘bulls (f.)’ |                 |
|      | b. róob | ‘rain (m.)’  | roob-áb | ‘rains (m.)’ |                 |
|      | c. náag | ‘woman (f.)’ | naag-ó  | ‘women (m.)’ | (Lecarme 2002)  |
|      | d. úgax | ‘egg (f.)’   | ugxáan  | ‘eggs (f.)’  | (Saeed 1999:63) |

<sup>21</sup> For example, the impersonal pronoun *la* ‘one’ triggers masculine agreement even when the speaker does not know the gender of the referent.

<sup>22</sup> Traditionally, Somali is described as a language with “gender polarity:” plural nouns take the opposite gender of their singular counterparts. However, there are many exceptions to this generalization (see examples above), and see Lecarme 2002 for arguments that “gender polarity” is not the best way to describe or analyze the Somali plural system.





The structure in (56) is the prediction that we started this section with: plural *n*'s can carry their own gender, separate from a lower, root-nominalizing *n*.<sup>24</sup>

Digression on Tone: the lower *n* is realized as a high tone on the penult in non-derived words (*inan* ‘boy’), but the plural form here has a high tone on the ultima (*inammó* ‘sons’).

- The plural marker brings its own high tone on the ultimate syllable (perhaps due to the [+FEM] feature).
- There can only be one high tone per nominal (Hyman 1981, Saeed 1999:41).
- Affixes commonly ‘trump’ the tone on the stem in Somali (Saeed 1999:41).

In Sum: This dialect of Somali provides support for gender being a feature on *n*: its plural system is entirely run via *n* and pluralizing a noun (often) changes its gender.

- This is in contrast to Amharic, where plural *n*'s do not carry their own gender features.<sup>25</sup>

#### 4.3 Partial Typology of Gender Systems

Finally: I use the proposal built and motivated throughout the talk to create a typology of gender systems.

- Limited to two-gender systems with only interpretable gender features (see Appendix; Kramer 2014)
- The predictions of the typology are borne out
- The analysis has promise in predicting the types of gender systems that are attested across languages

Caveat: this is not a typological survey!

- Focus on testing the falsifiable predictions of an analysis against what we know about gender

First Step: Every language with biological-sex-based gender has to have at least three *n*'s.

- (57)
- a. *n i* [+FEM] (for female entities)
  - b. *n i* [-FEM] (for male entities)
  - c. *n* (for unsexed entities)

- Nothing said so far requires a gender system to have uninterpretable gender features
- Recall that gender systems that use only semantic factors to ‘assign’ gender are in fact quite common (53/112 languages in WALS; Corbett 2013a)

If a language contains only (57)abc, and makes distinctions between two genders, there are three possible gender systems (Table 1).

**Table 1: Typology of Gender Systems**

|            | Gender 1        | Gender 2                           | Description                    | Example Language   |
|------------|-----------------|------------------------------------|--------------------------------|--------------------|
| Language A | <i>n</i> [+FEM] | <i>n</i> [-FEM]                    | Females vs. all other          | Dizi               |
| Language B | <i>n</i> [-FEM] | <i>n</i> [+FEM]                    | Males vs. all other            | Zayse and Zargulla |
| Language C | <i>n</i>        | <i>n</i> [+FEM]<br><i>n</i> [-FEM] | Unsexed entities vs. all other | ∅                  |

<sup>24</sup> There is even some morphophonological evidence for this analysis: plural *n*'s trigger regressive vowel harmony like higher suffixes, unlike suffixes that are closer to the root; Lecarme 2002:127.

<sup>25</sup> So how do Amharic and Somali differ? It seems that plural *n*'s in Amharic almost always select for a root (the one exception is *a*P's headed by *-amɨ*). However, Somali plural *n*'s select for a *n*P, similar to a ‘typical’ Num(ber) head. I suggest that the difference, then, may boil down to the fact that there is no regular plural (Num) in Somali, whereas the Amharic plural *n* coexists with a plural Num. See Kramer 2009, 2012 for further discussion.

- The analysis predicts that A and B are attested, and C is impossible.
- Now: examples of A and B, why C is predicted to be impossible, a language that looks like C is not C

#### 4.3.1 Language Type A: Dizi

Dizi (Afroasiatic (Omotic); southwest Ethiopia)

- Two genders: feminine and masculine (Allan 1976, Beachy 2005)
- Gender agreement on verbs
- Female entities = feminine, male entities = masculine

(58) izkɨa **koj-dad-eni** astɛmari am-ɛj  
 his **mother-child-F** teacher become-**3FS**  
 ‘His sister became a teacher.’ (Beachy 2005:74)<sup>26</sup>

(59) ja:b a<sup>3</sup>-ba:b-k koj-ka tirtɛj a<sup>3</sup>-ba:ni-k’anjɔ t’its’isim-i-go  
**man** his-father-and mother-and leave his-wife-INST be.attached-FUT-**3MS**  
 ‘A man leaving his father and mother will become attached together with his wife.’ (Beachy 2005:85)

- Inanimates are masculine (Allan 1976, Beachy 2005:15)

(60) its’-a **mam-ki-go**  
 food-DEF be.prepared-PERF-**3MS**  
 ‘The food has been prepared.’ (Beachy 2005:108)

- Masculine is the default gender (Beachy 2005:62)

(61) k’er-a-sn dad-a biah-o  
 door-DEF-ACC child-DEF open-**3MS**  
 ‘The child opened the door.’ (Beachy 2005:66)

(62) **Dizi n’s (= (57))**  
 a. n [+FEM] female biological sex (licenses the root for ‘sister’)  
 b. n [-FEM] male biological sex (licenses the root for ‘man’)  
 c. n no biological sex (licenses the root for ‘food,’ ‘child’)

(63) **Dizi Vocabulary Items for Verbal Agreement**

- [T], [3] [+FEM] ↔ ɛj (inserted for any item with +FEM)
- [T], [3] ↔ (g)o (inserted elsewhere)

- Dizi is Type A: a language that contrasts one gender for females, with another gender for all other nouns
- Other Type A languages: Dieri (Pama-Nyungan), Awtuw (Sepik-Ramu), Wolaitta (Omotic), etc.

#### 4.3.2 Language Type B: Zayse/Zargulla = Feminine Default Gender

Zayse and Zargulla (Afroasiatic (Omotic); Ethiopia; possibly dialects of the same language)

- Two genders: feminine and masculine

<sup>26</sup> Glossing slightly changed for comprehensibility. The superscript numbers are tones (3 = high tone).

- Gender agreement on verbs and other categories
- Female entities = feminine, male entities = masculine

(64) ʔats-í gél-á-tte-s-inne **Zargulla**  
 man-NOM enter-INT-FOC-**3MS**-PAST  
 ‘A man entered.’ (Amha 2012:446, (18a))

(65) biššo-y gél-á-tte-š-inne **Zargulla**  
 woman-NOM enter-INT-FOC-**3FS**-PAST  
 ‘A woman entered.’ (Amha 2012:446, (18b))

- Inanimates are all **feminine** (Hayward 1990:248, Amha 2012:446)

(66) nas’ála-y bóot-ó-tte-š-inne **Zargulla**  
 garment-NOM be.white-INT-FOC-**3FS**-PAST  
 ‘The garment became white/clean.’ (Amha 2012:446, (18c))

- Feminine is the default gender

(67) móož-á-tte-š-inne **Zayse**  
 be.cold-INT-FOC-**3FS**-PAST  
 ‘It got cold (of the weather).’ (Hayward 1990:249)<sup>27</sup>

(68) **Zayse/Zargulla *n*'s (= (57), (62))**

- d. *n* [+FEM] female biological sex (licenses √BIŠŠO ‘woman’)  
 e. *n* [-FEM] male biological sex (licenses √ʔATS ‘man’)  
 f. *n* no biological sex (licenses √NAS’ÁLA ‘garment’)

(69) **Zayse/Zargulla Vocabulary Items for Verbal Agreement**

- a. [ʔ], [3], [-FEM] ↔ š (inserted for any item with -FEM)  
 b. [ʔ], [3] ↔ s (inserted elsewhere)

- Zayse/Zargulla are Type B: a language that contrasts one gender for males, with another gender for all other nouns
- Other Type B languages: Ollari (Dravidian), Kala Lagaw Ya (Pama-Nyungan), etc.

#### 4.3.3 No Language is Type C

Recall the structure of a Type C language:

**Table 1 (partial)**

|            | Gender 1 | Gender 2                           | Description                    | Example Language |
|------------|----------|------------------------------------|--------------------------------|------------------|
| Language C | <i>n</i> | <i>n</i> [+FEM]<br><i>n</i> [-FEM] | Unsexed entities vs. all other | ∅                |

Given DM assumptions, Language C is predicted to be unattested.

- Language C would have gender agreement on, say, definite determiners that uses one exponent for plain *n* nominals ((70)a) and another exponent with male and female nominals ((70)b).

<sup>27</sup> Transcription and glossing adjusted to be consistent with Amha 2012.

(70) **Language C : Vocabulary Items for Definite Determiner**

- a. [D], [DEF] ↔ ba  
 b. [D], [DEF], [+FEM], [-FEM] ↔ bo

(71) **Excerpt from Subset Principle (Halle 1997)**

Vocabulary Insertion does not take place if the Vocabulary Item contains features not present in the morpheme.

- D that agrees with a female *n*P will have a [+FEM] feature, but (70)b would not be able to be inserted since (70)b contains a [-FEM] feature as well
- The same goes for a D that agrees with a male *n*P since (70)b also has a [+FEM] feature.
- Thus, all targets are predicted to receive the same gender exponent (*ba*) in Language C = not a gender system.<sup>28</sup>

However, there seem to exist gender systems that are like Language C = animacy-based gender systems

- Male and female entities have the same gender (animate)
- Unsexed entities having a different gender (inanimate)

Animacy Example: Lealao Chinantec (Otomanguan (Chinantecan); Mexico)

- Two genders: animate and inanimate
- Gender agreement on verbs and other categories

(72) na<sup>3</sup>-kiʔ<sup>42</sup>-i mɪ<sup>3</sup>  
 STA-fall-AN woman  
 ‘The woman is fallen (by someone).’ (Rupp 1989:27, (126))

(73) na<sup>3</sup>-kiʔ<sup>42</sup> ñú<sup>2</sup>  
 STA-fall house  
 ‘The house is fallen (by someone).’ (Rupp 1989:27, (125))

However, there are two key predictions that the proposal makes for any Type C language...

- ...both crucially because the “animate” gender in a Type C corresponds only to female and male *n*’s.

(74) **Prediction for a Type C Language**

- a. Any noun that is interpreted as animate, but is not sex-differentiable linguistically, will have inanimate gender.  
 b. Any noun that is interpreted as animate, but whose biological sex is unknown, will have inanimate gender.

---

<sup>28</sup> Such a system could potentially arise if a language (call it C’) had three Vocabulary Items for D (one plain, one with [+FEM], and one with [-FEM]) and the VIs for [+FEM] and [-FEM] were accidentally homophonous.

(i) **Hypothetical Language C’: Vocabulary Items for Definite Determiner**

- a. [D], [DEF] ↔ ba  
 b. [D], [DEF], [+FEM] ↔ bo  
 c. [D], [DEF], [-FEM] ↔ bo

I have yet to confirm that there is a natural language like C.’ Perhaps it would be difficult to acquire such a system unless the [+FEM] and [-FEM] features were each associated with their own distinct exponent on some other agreement target (cf. Müller 2004’s Syncretism Principle).

These predictions are false for Lealao Chinantec (and for other animacy two-gender languages, to the best of my knowledge).

- Prediction (74)a: animate that is not sex-differentiable linguistically = insects
  - Corbett 2013b: “no language has been reported as including reference to their biological sex within a grammatical system”
  - Insects are animate in Lealao Chinantec, despite lacking biological sex

(75)  $\underline{\text{li}}\text{h}^3$              $\text{ba}^2$      $\text{ga}^3\text{-cuh}^3\text{-y}$   
 grasshopper AFFIRM HAB-eat.3-AN  
 ‘He eats grasshoppers.’ (Rupp 2009:6)

- Prediction (74)b: unsexed animate = ‘child’ or ‘person’
  - Unsexed animates are animate in Lealao Chinantec, despite lacking biological sex

(76)  $\text{li}\acute{\text{a}}\text{h}^4\text{j}\acute{\text{i}}^3\text{-y}$   $\text{dsa}^3$   
 all-AN person  
 ‘all the people’ (Rupp 2009:9)

Conclusions: Lealao Chinantec is not a Type C language and (I believe) Type C languages are unattested, as predicted by the proposal combined with DM assumptions about Vocabulary Insertion.

- (What about Lealao Chinantec? Easily accounted for in an animacy feature approach: animate entities (all animates regardless of sex, insects) have [+ANIMATE] gender, inanimate entities have [-ANIMATE] gender)
- The predictions of the typology are all borne out (and see the Appendix)

## 5 CONCLUSIONS AND BANTU SPECULATIONS

### Conclusions

This is a new approach to the morphosyntax of gender --- addresses the three guiding questions:

- Locus: gender features on *n* (licensing conditions connect *n*'s and roots)
- Interpretability: gender features are interpretable or uninterpretable
- Morphological Realization: connection between syntactico-semantic features on *n* and agreement features on Vocabulary Items has been made explicit

I motivated the proposal through data from Amharic...

- Provides evidence for the key role of natural/interpretable gender
- Provides evidence that gender is on *n*

The analysis makes correct predictions for a range of gender-related phenomena:

- Nominalizations
- Complex system of Somali number/gender
- The types of two gender systems attested

Still, many open questions remain, especially about languages with >2 gender systems.

- Will close with brief discussion of how the proposals here could relate to Bantu noun class

### Bantu Speculations

We have seen gender systems where the genders used for males/females (interpretable gender) are **re-used** for unsexed entities.

- What about a gender system where entities that lack interpretable gender have **their own novel** gender?

Gender systems like this are often described as “noun class,” especially if they have >3 genders.

- Prime example: Bantu noun class (overviews in Maho 1999, Demuth 2000, Katamba 2003)

### Salient Facts about Bantu Gender

- 0 to 20 noun classes; majority exhibit 7 (Maho 1999)
- Noun classes grouped in singular/plural pairings

**Table 2: Noun classes in Sesotho (Demuth 2000:273)**

|           | Class | Singular  | Class | Plural     |
|-----------|-------|-----------|-------|------------|
| ‘person’  | 1     | mo-tho    | 2     | ba-tho     |
| ‘aunt’    | 1a    | rakhádi   | 2a    | bo-rakhádi |
| ‘dress’   | 3     | mo-sé     | 4     | me-sé      |
| ‘day/sun’ | 5     | le-tsatsí | 6     | ma-tsatsí  |
| ‘tree’    | 7     | se-fate   | 8     | di-fate    |
| ‘dog’     | 9     | n-tjá     | 10    | din-tjá    |
| ‘health’  | 14    | bo-phelo  |       |            |
| ‘to cook’ | 15    | ho-phéha  |       |            |

- The robust semantic generalization within/across Bantu languages: human beings are class 1(a)/2
- But there are a few less robust semantic generalizations within/across Bantu languages (Maho 1999):
  - Animals are class 9/10
  - Inanimate objects are class 7/8
  - etc.
- Otherwise “ragbag” of meanings associated with particular pairings (Katamba 2003:115), although attempts at systematicity have been made (Contini-Morava 1997, Moxley 1998)

I assume any feature(s) relevant to noun class is on  $n$  (a non-trivial assumption; cf. Ferrari 2005).

- Roots in class 1(a)/2 are licensed under  $n$  [HUMAN]
- What about the other classes? Three possible analyses:

### **Analysis 1: Only Human-ness**

- Each noun class pairing (except for 1a/2) is a separate  $n$  that has an uninterpretable identity feature

(77)  $n$   
 $n$  [9/10]

- The semantic sub-regularities are not part of the generative grammar.
- Evidence in favor: only human-ness plays a significant role in loanword noun class assignment and in the acquisition of noun class (Demuth 2000)

### **Analysis 2: Adding Interpretable Features**

- Same as Analysis 1, except some  $n$ 's within a noun class pairing also have interpretable features (e.g.,  $n$  [9/10],  $i$  [ANIMAL]).
- Proposed in: Ferrari 2005, Carstens 2010/2011 (from a lexicalist perspective)

### Analysis 3: Adding Uninterpretable Features

- All nouns in the same pairing have the same single feature (e.g., [ANIMAL] for 9/10).
- This feature is interpretable for some nouns in the class, but uninterpretable for others.

Next Step: distinguishing these three analyses empirically and conceptually – suggestions/preferences welcome!

### REFERENCES

- Acquaviva, Paolo. 2009. Roots and lexicality in Distributed Morphology. In *York Essex Morphology Meeting 2*. 1-21.
- Alexiadou, Artemis. 2004. Inflection class, gender and DP-internal structure. In G. Müller, L. Gunkel, and G. Zifonun, eds. *Explorations in Nominal Inflection*. Berlin: Mouton. 21-50.
- Allan, Edward J. 1976. Dizi. In M. Lionel Bender, ed. *The Non-Semitic Languages of Ethiopia*. East Lansing, MI: Michigan State University. 377-392.
- Amha, Azeb. 2012. Omotic. In Z. Frajzyngier and E. Shay, eds. *The Afroasiatic Languages*. Cambridge: CUP. 423-504.
- Arad, Maya. 2003. Locality constraints on the interpretations of roots. *Natural Language and Linguistic Theory* 21. 737-778.
- Arad, Maya. 2005. *Roots and Patterns: Hebrew Morpho-syntax*. Dordrecht: Springer.
- Atkinson, Emily A. 2012. Gender features on *n* & the root: an account of gender in French. Paper presented at the 42<sup>nd</sup> Linguistic Symposium on Romance Languages. Southern Utah U., Cedar City, UT.
- Beachy, Marvin. 2005. An overview of Central Dizin phonology and morphology. Master's thesis, University of Texas at Arlington.
- Bernstein, Judy. 1993. Topics in the syntax of nominal structure across Romance and Germanic languages. Doctoral dissertation, City University of New York.
- Borer, Hagit. 2005. *Structuring Sense. Volume 1: In Name Only*. Oxford: OUP.
- Carstens, Vicki. 2010. Implications of grammatical gender for the theory of uninterpretable features. In M. Putnam, ed. *Exploring Crash-Proof Grammars*. Amsterdam: Benjamins. 31-57.
- Carstens, Vicki. 2011. Hyperactivity and hyperagreement in Bantu. *Lingua* 121. 721-741.
- Chomsky, Noam. 2000. Minimalist inquiries, the framework. In R. Martin, D. Michaels and J. Uriagereka, eds. *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*. Cambridge: MIT Press. 89-155.
- Cohen, Marcel. 1970. *Traité de Langue Ambarique*. 2<sup>nd</sup> ed. Paris: Institut d'Ethnologie.
- Corbett, Greville. 1991. *Gender*. Cambridge: CUP.
- Corbett, Greville G. 2013a. Systems of gender assignment. In: M. S. Dryer and M. Haspelmath, eds. *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology.
- Corbett, Greville G. 2013b. Sex-based and non-sex-based Gender Systems. In: M.S. Dryer and M. Haspelmath, eds. *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute.
- De Belder, Marijke. 2011. Roots and affixes: eliminating lexical categories from the syntax. Doctoral dissertation, Universiteit Utrecht.
- Demuth, Katherine. 2000. Bantu noun class systems: loanword and acquisition evidence of semantic productivity. In G. Senft, ed. *Systems of Nominal Classification*. Cambridge: CUP. 270-292.
- Duek, Karen. to appear. Bare singulars and gender agreement in Brazilian Portuguese. *Proceedings of CLS 48*. Chicago: CLS.
- Embick, David and Rolf Noyer. 2007. Distributed morphology and the syntax/morphology interface. In G. Ramchand and C. Reiss, eds. *The Oxford Handbook of Linguistic Interfaces*. Oxford: OUP. 289-324.
- Epstein, Samuel, Hisatsugu Kitahara, and T. Daniel Seely. 2010. Uninterpretable features: what are they, and what do they do? In M. Putnam, ed. *Exploring Crash-Proof Grammars*. Amsterdam: Benjamins. 125–142.
- Ferrari, Franca. 2005. A syntactic analysis of the nominal systems of Italian and Luganda: how nouns can be formed in the syntax. Doctoral dissertation, New York University.



- Ferrari-Bridgers, Franca. 2007. The predictability of gender in Italian. *Lingua et Linguistica* 1. 146-167.
- Ferrari-Bridgers, Franca. 2008. A unified syntactic analysis of Italian and Luganda nouns. In C. de Cat and K. Demuth, eds., *The Bantu-Romance Connection*. Amsterdam: Benjamins. 239-258.
- Gardiner, Sir Alan. 1957. *Egyptian Grammar*. 3<sup>rd</sup> ed. Oxford: Griffith Institute.
- Halle, Morris. 1997. Distributed morphology: impoverishment and fission. In B. Bruening, et al., eds., *MIT Working Papers in Linguistics 30: Papers at the Interface*. Cambridge: MITWPL. 425-449.
- Harbour, Daniel, David Adger and Susana Béjar. 2008. *Phi Theory: Phi-Features across Modules and Interfaces*. Oxford Studies in Theoretical Linguistics 16. Oxford: OUP.
- Harley, Heidi and Rolf Noyer. 1999. Distributed morphology (State-of-the-Article). *Glott International* 4. 3-9.
- Harris, James. 1991. The exponence of gender in Spanish. *Linguistic Inquiry* 22. 27-62.
- Hartmann, Josef. 1980. *Amharische Grammatik*. Wiesbaden: Steiner.
- Halle, Morris and Alec Marantz. 1993. Distributed morphology and the pieces of inflection. In K. Hale and S. J. Keyser, eds. *The View from Building 20*. Cambridge: MIT Press. 111-176.
- Harley, Heidi and Elizabeth Ritter. 2002. Person and number in pronouns: a feature-geometric analysis. *Language* 78. 782-526.
- Hayward, Richard J. 1990. Notes on the Zayse language. In R. Hayward, ed. *Omoti Language Studies*. London: SOAS. 210-355.
- Heim, Irene and Angelika Kratzer. 1998. *Semantics in Generative Grammar*. Oxford: Blackwell.
- Hyman, Larry. 1981. Tonal accent in Somali. *Studies in African Linguistics* 12.2: 169-201.
- Katamba, Francis X. 2003. Bantu nominal morphology. In Derek Nurse and Gérard Phillipson, eds. *The Bantu Languages*. London: Routledge. 103-120.
- Kayne, Richard S. 2005. On parameters and on principles of pronunciation. In H. Broekhuis, et al., eds. *Organizing Grammar: Linguistic Studies in honor of Henk van Riemsdijk*. Berlin: Mouton. 289-299.
- Kihm, Alain. 2005. Noun class, gender and the lexicon-syntax-morphology interfaces: a comparative study of Niger-Congo and Romance languages. In G. Cinque and R. S. Kayne, eds. *The Oxford Handbook of Comparative Syntax*. Oxford: OUP. 459-512.
- Koopman, Hilda. 2003. Inside the “noun” in Maasai. In Anoop Mahajan, ed. *Syntax at Sunset 3: Head Movement and Syntactic Theory*. UCLA Working Papers in Linguistics 10. 77-115.
- Kramer, Ruth. 2009. Definite markers, phi-features, and agreement: a morphosyntactic investigation of the Amharic DP. Doctoral dissertation, UC Santa Cruz.
- Kramer, Ruth. 2012. A split analysis of plurality: evidence from Amharic. In *The Proceedings of WCCFL 30*, eds. N. Arnett and R. Bennett. Somerville, MA: Cascadilla Press. 226-236.
- Kramer, Ruth. 2013. Gender in Amharic: A morphosyntactic approach to natural and grammatical gender. *Language Sciences*. <http://dx.doi.org/10.1016/j.langsci.2013.10.004>.
- Kramer, Ruth. 2014. The morphosyntax of gender: evidence from Amharic. Ms., Georgetown University.
- Lecarme, Jacqueline. 2002. Gender “polarity:” theoretical aspects of Somali nominal morphology. In P. Boucher and M. Plénat, eds. *Many Morphologies*. Somerville, Massachusetts: Cascadilla Press. 109-141.
- Legate, Julie Anne. 2002. Phases in ‘Beyond Explanatory Adequacy.’ Ms., MIT.
- Leslau, Wolf. 1995. *Reference Grammar of Amharic*. Wiesbaden: Harrassowitz.
- Lowenstamm, Jean. 2008. On little n, √, and types of nouns. In J. Hartmann, V. Hegedűs, and H. van Riemsdijk, eds. *Sounds of Silence: Empty Elements in Syntax and Phonology*. Amsterdam: Elsevier. 105-144.
- Maho, Jouni. 1999. *A Comparative Study of Bantu Noun Classes*. Göteborg, Sweden: Acta Universitatis Gothoburgensis.
- Marantz, Alec. 1997. No escape from syntax. *University of Pennsylvania Working Papers in Linguistics* 4. 201-225.
- Markova, Angelina. 2010. The syntax of deverbal nominals in Bulgarian. In A. Alexiadou and M. Rathert, eds. *The Syntax of Nominalizations across Languages and Frameworks*. Berlin: Mouton. 93-128.
- Müller, Gereon. 2004. A Distributed Morphology approach to syncretism in Russian noun inflection. In O. Arnaudova, et al., eds. *Proceedings of Formal Approaches to Slavic Linguistics 12*. Ann Arbor: Michigan Slavic Publications. 353-374.
- Newell, Heidi C. 2005. A consideration of feminine default gender. Master’s thesis, University of Cincinnati.
- Noyer, Rolf. 1997. *Features, Positions, and Affixes in Autonomous Morphological Structure*. New York: Garland
- Paster, Mary. 2006. Aspects of Maay phonology and morphology. *Studies in African Linguistics* 35. 73-120.

- Paster, Mary. 2010. Optional multiple plural marking in Maay. In Franz Rainer, et al., eds. *Current Issues in Linguistic Theory 310: Variation and Change in Morphology*. Amsterdam: Benjamins 177-192.
- Payne, Doris. 1998. Maasai gender in typological perspective. *Studies in African Linguistics* 27. 159-175.
- Percus, Orin. 2010. Gender features and interpretation: a case study. *Morphology* 21. 167-196.
- Pesetsky, David and Esther Torrego. 2007. The syntax of valuation and the interpretability of features. In S. Karimi, V. Samiian and W. K. Wilkins, eds. *Phrasal and Clausal Architecture*. Amsterdam: Benjamins. 262-294.
- Picallo, M. Carme. 1991. Nominals and nominalization in Catalan. *Probus* 3. 279-316.
- Picallo, M. Carme. 2008. Gender and number in Romance. *Lingue e Linguaggio* 7. 47-66.
- Pollard, Carl and Ivan Sag. 1994. *Head-Driven Phrase Structure Grammar*. Stanford: CSLI.
- Ralli, Angela. 2002. The role of morphology in gender determination: evidence from Modern Greek. *Linguistics* 40. 519-551.
- Riente, Lara. 2003. Ladies first: the pivotal role of gender in the Italian nominal inflection system. *McGill Working Papers in Linguistics* 17.2. 1-54.
- Ritter, Elizabeth. 1991. Two functional categories in noun phrases: evidence from Modern Hebrew. In S. D. Rothstein, ed. *Perspectives on Phrase Structure: Heads and Licensing*. San Diego: Academic Press. 37-62.
- Ritter, Elizabeth. 1993. Where's gender? *Linguistic Inquiry* 24. 795-803.
- Roca, I. M. 1989. The organisation of grammatical gender. *Transactions of the Philological Society* 87. 1-32.
- Rupp, James E. 1989. *Lealao Chinantec Syntax*. Studies in Chinantec Languages 2. UT Arlington: SIL.
- Rupp, James E. 2009. Animacy in two Chinantec varieties. SIL-Mexico Branch Electronic Working Papers #007. <http://www.sil.org/mexico/workpapers/WP007i-ChinantecAnimacy-cle-chz.pdf>
- Saeed, John. 1993. *Somali Reference Grammar*. 2<sup>nd</sup> revised edition. Kensington, MD: Dunwoody Press.
- Saeed, John. 1999. *Somali*. Amsterdam: Benjamins.
- Steriopolo, Olga. 2008. Form and function of expressive morphology: a case study of Russian. Doctoral dissertation, University of British Columbia, Vancouver.
- Steriopolo, Olga and Martina Wiltschko. 2010. Distributed GENDER hypothesis. In G. Zybatow et al., eds. *Formal Studies in Slavic Linguistics: Proceedings of the Formal Description of Slavic Languages 7.5*. New York: Peter Lang GmbH. 155-172.
- Tropper, Josef. 2002. *Altäthiopisch : Grammatik des Ge'ez mit Übungstexten und Glossar*. Münster: Ugarit.
- Tucker, Archibald and John Mpaayei. 1955. *A Maasai Grammar, with Vocabulary*. Leiden: African Institute.
- Wechsler, Stephen and Larisa Zlatic. 2003. *The Many Faces of Agreement*. Stanford: CSLI.
- Wiltschko, Martina. 2006. Why should diminutives count? In H. Broekhuis, et al., eds. *Organizing Grammar. Linguistic Studies in Honor of Henk van Riemsdijk*. Berlin: Walter de Gruyter: 669-679.

## APPENDIX: ADDING AN UNINTERPRETABLE FEATURE (MAA)

Above, I only consider for the typology languages where the *n*'s have interpretable gender features.

- What about languages where a *n* has an **uninterpretable** gender feature?

Two possible sets of *n*'s (only one uninterpretable gender feature considered, for space reasons):

- (78) **Language D**
- |             |                 |                                                          |
|-------------|-----------------|----------------------------------------------------------|
| a. <i>n</i> | <i>i</i> [+FEM] | Female natural gender                                    |
| b. <i>n</i> | <i>i</i> [-FEM] | Male natural gender                                      |
| c. <i>n</i> |                 | No natural gender (or natural gender irrelevant/unknown) |
| d. <i>n</i> | <i>u</i> [+FEM] | <b>Feminine arbitrary gender</b>                         |

- Masculine default , but some feminine inanimates and feminine unsexed animates<sup>29</sup>
- Example: Amharic (see also Somali, Spanish)

(79) **Language E**

- a. *n i* [+FEM] Female natural gender
- b. *n i* [-FEM] Male natural gender
- c. *n* No natural gender (or natural gender irrelevant/unknown)
- d. *n u* [-FEM] **Masculine arbitrary gender**

- Feminine default, but some masculine inanimates and masculine unsexed animates

I submit that Language E is attested: **Maa(sai)** (Nilo-Saharan (Nilotic); Kenya, Tanzania).

- Two genders: feminine and masculine (Tucker and Mpaayei 1955:3)
- Gender agreement on demonstratives and ‘gender prefix’ (GP)
- Female entities = feminine, male entities = masculine

- (80) a. ol-ayíónì GP.M-boy ‘boy’ **Different Root**  
en-tító GP.F-girl ‘girl’  
(Tucker and Mpaayei 1955:3, 285, 293)

- Inanimates are either masculine ((81)) or feminine ((81)).

- | (81) <b>Masculine Inanimates</b> |            | <b>Feminine Inanimates</b> |                                        |
|----------------------------------|------------|----------------------------|----------------------------------------|
| a. ol-caní                       | ‘tree’     | e. en-kímá                 | ‘fire’                                 |
| b. o-sóít                        | ‘stone’    | f. e-rórèt                 | ‘lawn’                                 |
| c. ol-kítíkótó                   | ‘path’     | g. en-kóitói               | ‘road’                                 |
| d. ol-dóínyó                     | ‘mountain’ | h. en-dóínyó               | ‘hill’ (Tucker and Mpaayei 1955: 3, 5) |

- Feminine gender is the default (Tucker and Mpaayei 1955, Payne 1998, Koopman 2003, Newell 2005).

- (82) a. ol-ayíónì GP.M-boy ‘boy’  
b. en-tító GP.F-girl ‘girl’  
**c. en-kérái GP.F-child ‘child’** (Tucker and Mpaayei 1955:3, 285, 293)

- Also evidence from animals (feminine default if gender unknown), unknown entities (feminine), borrowings, and nominalizations (Payne 1998)

- However, there are a few unsexed entities with masculine gender, e.g., ‘person’

- (83) ol-tuǰáni  
GP.M-person  
‘person’ (Tucker and Mpaayei 1955:301)

- There are also masculine animals and masculine inanimates (see (81)), unlike Zayse/Zargulla

The facts summarized just above are all predicted if a language has Set 2 of the possible *n*’s: female *n*, male *n*, plain *n*, and a *n u*[-FEM] and a feminine default.

<sup>29</sup> If Language D has a feminine default, then all inanimates will receive feminine either by default or being licensed under (78)d. This makes Language D indistinguishable from Language B (Zayse/Zargulla), and I assume that when learners are confronted with this array of facts, they acquire Language B instead since it is simpler (has one less *n*).

- (84) ***n*'s for Maa**
- |                      |                             |                                           |
|----------------------|-----------------------------|-------------------------------------------|
| a. <i>n i</i> [+FEM] | Female biological sex       | (licenses √TÍTO ‘girl’)                   |
| b. <i>n i</i> [-FEM] | Male biological sex         | (licenses √AYÍÓNÌ ‘boy’)                  |
| c. <i>n</i>          | No biological sex: option 1 | (licenses √KÉRAÍ ‘child,’ √KÍMÁ ‘fire’)   |
| d. <i>n u</i> [-FEM] | No biological sex: option 2 | (licenses √TUDÁNÌ ‘person,’ √CANÍ ‘tree’) |

VI's for the gender prefix: ([GP] = whatever morphosyntactic feature bundle the gender prefixes expone)

- (85) **Vocabulary Items: Maasai Gender Prefix**

[GP], [-FEM] ↔ *ol-*

[GP] ↔ *en-*

- The VI used for female animates (*en-*) is the default (borrowings, most unsexed animates, etc).

Overall, then, Maa is the feminine default ‘mirror image’ of Amharic similarly to how Zayse/Zargulla was the mirror image of Dizi.

- This type of language is predicted by the analysis, and the fact that it exists is further evidence that the *n* approach is on the right track.