

GENDER IN AMHARIC: A MORPHOSYNTACTIC APPROACH TO NATURAL AND GRAMMATICAL GENDER

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Abstract: Gender features can be divided into two types: natural gender (also called biological gender or sex) and grammatical gender (the arbitrary gender often associated with inanimates). Morphosyntactic analyses that address both aspects of gender are relatively rare, and they often play down or eliminate the role of natural gender in the morphosyntax. In this paper, I will argue for a new analysis of the relationship between grammatical gender and natural gender, using evidence from the language Amharic (Ethiosemitic). I show how conventional analyses of gender struggle with Amharic, and develop an alternative analysis that crucially relies on natural gender and grammatical gender both being features on *n* (cf. Lecarme, 2002, Ferrari, 2005, *inter alia*; I assume lexical categories are decomposed into a category-defining head and a category-neutral root). Further evidence for the analysis is provided by the unusual interaction of gender and number in Amharic, as well as the morphosyntax of Amharic nominalizations. The paper concludes with some discussion of the diachrony of gender in Amharic and the cross-linguistic implications of the analysis.

Keywords: morphology; syntax, gender; Amharic; features; Distributed Morphology

1. Introduction¹

Gender is conventionally defined as the sorting of nouns into two or more classes that is reflected in agreement morphology on determiners, adjectives, verbs and other syntactic categories (Hockett, 1958, p. 231, cf. Corbett, 1991, p.1). Gender always correlates, at least partially, with biological sex or some other semantic property (e.g., animacy; Corbett, 1991).² For example, in a system based on biological sex, nouns designating referents with one biological sex have one gender and nouns designating referents of the other biological sex have the other gender. Inanimate referents do not have biological sex, so nouns designating such referents receive gender arbitrarily.

The dichotomy between ‘natural’ gender (biological sex) and ‘grammatical’³ gender (gender assigned arbitrarily) raises certain key questions. How do the same morphological resources express both types of gender? Do the two types differ in their features or their syntactic locations? The relationship between natural gender and grammatical gender has been explored from a morphosyntactic perspective for only a handful of related languages which all have similar gender systems. In this paper, I propose a new analysis of this relationship based on evidence from the Ethiosemitic language Amharic.

¹ Gloss abbreviations not included in the Leipzig Glossing Rules: ADJ – adjectivalizer, DEF – definite marker, FEM – female.

² There is another way of sorting nominals: inflection/declension class. Gender and inflection class are generally considered to be different types of properties since inflection class does not have a semantic basis and it is not reflected in agreement patterns (Harris, 1991, Wechsler and Zlatić, 2003, Alexiadou, 2004). However, cross-linguistically, there are often weak generalizations connecting inflection class and gender (e.g., “nouns in Inflection Class I are generally feminine”). I set aside inflection class in this paper, but hopefully the analysis of gender assignment developed here will ultimately be useful in encoding these generalizations.

³ Sometimes the term ‘grammatical’ gender is used more widely to mean any gender features relevant to the grammar. I intend it more narrowly as any gender feature assigned without reference to the semantic properties of the noun.

Specifically, I demonstrate how the Amharic gender system relies heavily on natural gender in Section 2, and how it is thus difficult for previous analyses to account for in Section 3. I propose in Section 4 that both natural and grammatical gender features are located on the nominalizing head *n* (see e.g., Lecarme, 2002, Ferrari(-Bridgers), 2005, Lowenstamm, 2008, Acquaviva, 2009, Kramer, 2009, 2012). Natural gender features are interpretable, whereas grammatical gender features are uninterpretable. Licensing conditions pair up category-neutral roots with different types of *n*'s to generate gendered nouns. Since the same feature is on *n* for all types of gender (differing merely in interpretability), natural and grammatical gender are realized using the same morphological exponents. Section 4 contains independent evidence from Amharic that supports this proposal, and Section 5 concludes.

2. Gender in Amharic

Amharic is a South Semitic language and the national language of Ethiopia. Similar to other Semitic languages (and most, if not all, Afroasiatic languages), Amharic recognizes two genders: masculine and feminine. There is no consistent morphophonological correlate of gender (Leslau, 1995, p. 161, Cohen, 1970, p. 71, with one exception discussed below). Therefore, gender is indicated by agreement on e.g., the definite marker, demonstratives, and verbs. Masculine and feminine definite markers are shown in (1).⁴

- (1)
- | | |
|-------------|---------|
| - <i>n</i> | ‘the.M’ |
| - <i>na</i> | ‘the.F’ |

When the gender of a noun needs to be clarified in this paper, it will appear with the appropriate definite marker.

The Amharic system for assigning gender is heavily reliant on natural gender. Specifically, the gender of an animate noun is assigned exclusively according to its natural gender (Hartmann, 1980, p. 278, Leslau, 1995, p. 161, Appleyard, 1995, p. 33). Some male-female pairs have different roots; mostly these are kinship terms (father/mother) and names of domesticated animals (bull calf/heifer).

(2) Different Root Nominals

abbat	‘father’	innat	‘mother’
bal	‘husband’	mist	‘wife’
wändimm	‘brother’	ihit	‘sister’
wäyfän	‘bull calf’	gidär	‘heifer’

However, the vast majority of animate nominals have the same root for both males and females, whether for humans (e.g., *tāmari* ‘student’) or animals (e.g., *wǝǝfa* ‘dog’).

(3) Same Root Nominals

a. <i>tāmari-w</i> ⁵	<i>tāmari-wa</i>
student-DEF.M	student-DEF.F
‘the (male) student’	‘the (female) student’

⁴ The definite markers can each be decomposed into a D morpheme /u/ and a gender marker. The masculine definite marker would thus consist of /u+Ø/ and the feminine definite marker consists of /u+a/ which surfaces as [wa]. Thanks to Richard Kayne for this observation.

⁵ The masculine definite marker *-n* is realized as *-w* after a vowel.

b. muḵḵirra-w wedding.participant-DEF.M 'groom'	muḵḵirra-wa wedding.participant-DEF.F 'bride'
c. hakim-u doctor-DEF.M 'the (male) doctor'	hakim-wa doctor-DEF.F 'the (female) doctor'
d. halafi-w person.in.charge-DEF.M 'the (male) person in charge' Walta hed12a2	halafi-wa person.in.charge-DEF.F 'the (female) person in charge' Walta hed01a2 ⁶
e. wiḵḵṣa-w dog-DEF.M 'the (male) dog'	wiḵḵṣa-wa dog-DEF.F 'the (female) dog'

The default (unmarked) gender is masculine (cf. Sauerland, 2008). For example, if the natural gender of the referent is unknown, then the nominal is masculine. In (4), the speaker does not know the natural gender of the baby, but uses a masculine definite marker.

- (4) his'an-u wänd näw set?
baby-DEF.M male is female?
'Is the baby a he or a she?' (Leslau, 1995, p. 164)

Additional evidence for a masculine default is that the nominal *nobody* takes masculine agreement (cf. Roca, 1989), shown on the verb in (5).

- (5) balläfaw sammint betäkristiyan mannimm al-hed-ä-mm
last week church nobody NEG-go-3MSG-NEG
'Last week, nobody went to church.' (Leslau, 1995, p. 122)

Exceptionally, though, certain animals are feminine if their gender is unknown/irrelevant (Cohen, 1970, p. 75, Hartmann 1980, p. 281, Leslau 1995, p. 166).⁸

- (6) a. bāk'lo-wa b. ayt'-wa c. k'äbäro-wa d. ḵärärit-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.

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

⁶ These examples are from the Walta Information Center Tagged Amharic News Corpus (Demeke and Getachew, 2006).

⁷ The noun *häs'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.

⁸ Other such animals include *ṣḥab* 'snake,' *asa* 'fish' and *nṣḥ* 'bee.'

This demonstrates that natural gender, if known, always determines the gender of an animate nominal. As for inanimate nominals, almost all of them are masculine (Cohen, 1970, p. 71, Leslau, 1995, p. 161).

(8) 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’

A small subset of the inanimate nouns are feminine; some examples are in (9).

(9) Feminine Nouns (inanimate)

mäkina	‘car’	s’ähay	‘sun’
azurit	‘whirlpool’	kätäma	‘city’
agär	‘country’	betä kristiyan	‘church’

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

As noted earlier, there is no consistent morphophonological correlate of gender across nominals. There is only one exception: in some same-root nominals, the female form has the suffix *-it* (Leslau, 1995, pp. 163-164).

- | | | |
|------|---|---|
| (10) | a. lidʒ-it
child-FEM
‘girl’ | b. arog-it
old.person-FEM
‘old woman’ |
| | c. mänäk ^w s-it
monk-FEM
‘nun’ | d. t’ot’-it
ape-FEM
‘female ape’ |

However, the suffix *-it* is neither a necessary nor a sufficient condition for feminine gender in Amharic, regardless of animacy (Cohen 1970, p. 74, Leslau 1995, pp. 163-164). Nouns can be feminine without ending in *-it*, and nouns can be masculine and end in *-it*.

- | | | |
|------|----------------------------------|--|
| (11) | <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, p. 74) |

Overall, grammatical gender is relevant in Amharic for the 20-30 feminine inanimate nouns and the handful of feminine default animals. Otherwise, the natural gender (or lack thereof) determines the gender of a nominal in Amharic according to the following descriptive rules:

- (12)
- a. If a nominal refers to a male referent, the nominal is masculine.
 - b. If a nominal refers to a female referent, the nominal is feminine.
 - c. 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.

Now that the principles which guide gender assignment are clear, it is necessary to construct a theory of gender within the grammar that will generate the facts. In the next section, I critically examine previous theories of gender as a starting place for this goal.

3. The Morphosyntax of Gender: Some Previous Approaches

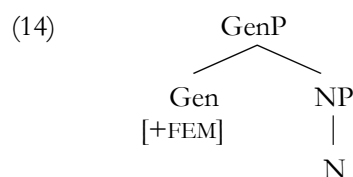
3.1 Some Appealingly Simple Approaches to Gender, and Why They Don't Work

At first glance, gender seems like a straightforward phenomenon. A basic, lexical theory of gender would be that gender is a nominal feature that is idiosyncratically listed for each noun. However, this analysis misses the generalization that male entities tend to have masculine gender and female entities tend to have feminine gender across languages. Moreover, many languages contain nouns that can have either masculine or feminine gender depending on the natural gender of the referent (Corbett, 1991, pp. 181-2, Wechsler and Zlatić, 2003, Alexiadou, 2004). I referred to them as same-root nominals above, and some examples from various languages are in (13).

- (13)
- a. Amharic: *tāmari* ‘student,’ *bakim* ‘doctor’ (see (3))
 - b. Spanish: *estudiante* ‘student,’ *patriota* ‘patriot,’ *testigo* ‘witness’ (Harris, 1991)
 - c. Archi (Caucasian): *lo* ‘child,’ *misgin* ‘poor person’ (Corbett, 1991, p. 181)
 - d. Greek: *odigos* ‘driver,’ *musikos* ‘musician,’ *ipurgos* ‘minister’ (Alexiadou, 2004, p. 40)
 - e. Maa(sai) (Nilotic): *aputáni* ‘wife’s parent,’ *mɔdái* ‘fool’ (Payne, 1998, p. 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. Additionally, as observed by Kayne (2005), gender as a feature on nouns would go against the Chomsky-Borer hypothesis about linguistic variation, since there would be cross-linguistic variation in the features on a *lexical*, not functional, head (e.g., the word ‘morning’ is masculine in French, feminine in Hausa (Corbett, 1991, p. 53), and neuter in Russian). Therefore, a simple analysis of gender where it varies idiosyncratically for each noun is undesirable.

Another analysis of gender that is initially appealing in its simplicity is for gender to be the head of its own projection, similar to Num(ber)P (Picallo, 1991, see also Bernstein, 1993). One implementation of this analysis is in (14).



However, unlike number, gender is not consistently exponed as a separate morpheme from the nominal, nor is it consistently interpretable. In fact, for inanimate nouns, Gen would be a syntactic head comprised only of uninterpretable features, which is objectionable from a minimalist standpoint (cf. Chomsky, 1995 on Agr nodes). Moreover, the original evidence for GenP from Catalan is not compelling (Kramer, 2009), and the proposal has been generally disputed on empirical and theoretical grounds (Ritter, 1993, Alexiadou, 2004). I thus do not pursue a GenP approach further.

Some analyses set aside natural gender entirely from a morphosyntactic investigation of gender, assuming that biological sex is related but different from the gender we see in language (see e.g., Bernstein, 1993, p. 117, Picallo, 2008, p. 50). This does not seem like the right approach if the theory of gender is meant to encompass languages like Amharic which rely heavily on natural gender. Amharic is also hardly the only language with this type of gender system; nearly half of the languages with gender surveyed by Corbett (2011) have ‘semantic’ gender assignment systems based primarily or predominantly on biological sex and/or other interpretable semantic properties. In the next subsection, I address previous analyses of gender that have slightly more complex gender assignment systems, and that cover both natural and grammatical gender.

3.2 Natural and Grammatical Gender

A handful of morphosyntactic analyses of gender explicitly treat both natural and grammatical gender⁹ (Spanish: Roca, 1989, Harris, 1991, Italian: Riente, 2003, Ferrari-Bridgers, 2007, Greek: Ralli, 2002, Spanish, Italian, Hebrew, Greek: Alexiadou, 2004). Abstracting away from the details, these analyses are almost all lexicalist and structured similarly. Specifically, nouns are listed in the lexicon with either specified or unspecified gender. A noun with unspecified gender receives gender via a lexical rule that refers to the natural gender of its discourse referent.¹⁰ Some sample nouns in the Spanish lexicon under this type of analysis are shown in (15).

- (15) Example: Spanish (Roca, 1989, Harris, 1991, Alexiadou, 2004)
 Nouns with Specified Gender:
 a. Inanimates (*domicilio* ‘house.M’ vs. *residencia* ‘residence.F’)
 b. Different-root nominals (*mujer* ‘woman’ vs. *hombre* ‘man’)
 c. Animate nominals that have a fixed gender (*persona* ‘person.F’)

Nouns with Unspecified Gender

- d. Masculine or feminine (*estudiante* ‘student,’ *patriota* ‘patriot,’ *testigo* ‘witness’)

These analyses contribute significantly in that they capture the idiosyncrasy of grammatical gender without positing that every noun is assigned gender arbitrarily.

However, they are not without drawbacks. First of all, these analyses do not generalize well to Amharic. Recall some animals have an unusual default feminine gender that is ‘overridden’ with natural gender.

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

The gender of feminine default animals thus seems to be simultaneously specified (feminine, like (15c) and unspecified (corresponds to the natural gender of the referent, like (15)d).

More generally, these analyses often ‘convert’ natural gender (male/female) to the gender feature used in the syntax (masculine/feminine, i.e., equivalent to grammatical gender). This captures the generalizations connecting male-ness with masculine gender and female-ness with feminine gender. However, in Amharic, this ‘conversion’ would happen for every animate noun, and this seems overly complicated and unnecessary – why not have the natural gender feature simply *be* the gender of a given nominal?

⁹ See also Pollard and Sag, 1994, Ch. 2 and Wechsler and Zlatić, 2003, Ch. 4 for an HPSG perspective on gender.

¹⁰ The specific type of rule varies by analysis. In Roca 1989 and Riente 2003, a redundancy rule assigns feminine gender if the referent is female. In Ralli 2002, a morphological feature co-occurrence rule says that if the sex of the referent is male, then gender is masculine and likewise for feminine. In Alexiadou 2004, a noun with unspecified gender enters into an agreement/concord relationship with its referent (the mechanics of the relationship are unclear).

Another downside of these analyses is that the gender of nouns in (15d) is assigned based on the sex of the discourse referent via a lexical (presyntactic) rule. However, it seems implausible for the discourse referents of a given derivation to be accessible to operations in the lexicon, at least in a standard minimalist syntax. In other words, information does not usually flow from the syntax/semantics derivation to the lexicon.

All of these analyses are lexical in that they assume most nouns are listed with a gender feature and other nouns receive gender via a lexical rule. In the next section, I present a novel, non-lexical approach to the morphosyntax of gender that accounts for Amharic and avoids some of the difficulties faced by earlier analyses.

4. The Morphosyntax of Gender: A New Approach

In a non-lexical approach, gender will have to be added to nouns (or roots) syntactically as a feature or head of some syntactic projection. In this section, I develop this perspective, adopting for concreteness the morphological framework Distributed Morphology (DM; Halle and Marantz, 1993, Harley and Noyer, 1999, among many others). In DM, there are no pre-syntactic lexical rules – morphological operations occur in the syntax (e.g., head movement) or during Phonological Form (PF) post-syntactically (e.g., affixation, cliticization, etc.). The lexicon itself is distributed: a pre-syntactic lexicon contains bundles of syntactic features, which are given morphophonological content at PF and interpreted at Logical Form(/the Encyclopedia).¹¹

In Section 4.1, I start narrowing down the options for a DM analysis of gender, starting with what DM assumes about lexical categories. In Section 4.2, I develop the main proposal of the paper, that gender is a feature on the nominalizing head *n*. In Section 4.3, I buttress the analysis with independent evidence that gender is on *n* in Amharic, drawing mainly on the interaction of gender and number.

4.1 Narrowing Down the Options

A productive line of morphological research within Distributed Morphology has been to decompose lexical categories (like N) into a category-neutral root ($\sqrt{}$) and a categorizing head (Marantz, 2001, Arad, 2003, 2005, among many others).¹² For example, a category-neutral root $\sqrt{\text{HAMMER}}$ combines with a verbalizing head *v* to make the verb ‘to hammer’ ((17)) or with a nominalizing head *n* to make the noun ‘a hammer’ ((18)).



¹¹ Phonological Form is the interface between syntax and phonology, and Logical Form is the interface between syntax and semantics. PF and LF are considered to be levels of the derivation; various operations can occur ‘during’ PF or LF (e.g., cliticization for PF, quantifier raising for LF). See Chomsky, 2000, 2001.

¹² This idea existed before Distributed Morphology (see e.g., van Riemsdijk, 1990 on *n*), and Distributed Morphologists are not the only ones who subscribe to it (see e.g., Lowenstamm, 2008). Cf. also Borer, 2005 for a similar approach, although Borer (2005, pp. 20-21) argues against the specific Distributed Morphology analysis adopted here.

There is now more ‘space’ for gender features in the syntax. Is the gender feature of a nominal on the root or on *n*?

Immediately, having a gender feature be on the root would cause the same undesirable repetitions as gender being lexically listed for every N (see Section 3.1). Same-root nominals (e.g. *tāmari* ‘student’; see (13)) would be required to have two homophonous, synonymous roots.

However, it is more plausible that gender is a feature on the nominalizing head *n*. This would mean that assigning gender to a root plays an essential part in turning that root into a nominal, which seems intuitively correct. In order to match up the right root with the right type of *n* (= the right gender), there must be some type of licensing conditions, such that a root is licit in the context of a masculine or feminine *n* (see e.g., Acquaviva, 2009).¹³ This allows for a simple treatment of same-root nominals (*tāmari* ‘student’); they simply have no licensing conditions. So far, then, a *n* analysis can match roots with genders through licensing conditions, and can account for the same-root nominals, all without appeal to the lexicon or lexical rules.

Additionally, the relationship between gender and the root generally has several of the characteristics of the relationship between a categorizing head and the root (Marantz, 2001). For example, gender is root-specific (different roots take different genders, i.e., different types of *n*’s). Moreover, there are paradigmatic gaps in root and *n* combinations (not all roots are possible with all genders, i.e., all types of *n*’s). This lends credence to the idea that gender is a feature on a categorizing head like *n*.

Several previous works on gender have explored the idea that gender is a feature on *n*, including Lecarme, 2002 (for Somali), Ferrari(-Bridgers), 2005 and Kihm, 2005 (for Bantu and Romance), Lowenstamm, 2008 (for French and Yiddish), and Acquaviva, 2009 (for Italian).¹⁴ Although I build on their work (e.g., in the use of licensing conditions), these analyses fail to discuss how the gender features on *n* relate to natural and grammatical gender. In this, they are a step backwards from the lexicalist accounts which were careful to differentiate the two concepts. In practical terms, this means that the *n* analyses currently on the market have difficulty accounting for Amharic. Most pressingly, the feminine default animals remain problematic. If the feminine default animals are treated like same-root nominals (no licensing conditions), then it is unclear how they receive feminine gender as a default. If they are treated as licensed only in the context of *n*[+FEM], then it is unclear how they could ever have masculine gender (i.e., when they refer to a male referent). In the following sections, I develop a novel *n* analysis of gender assignment that addresses both natural and grammatical gender.

4.2 The Proposal

Three ingredients are necessary to analyze the Amharic gender system. The first ingredient is that natural gender is an interpretable gender feature housed on some types of *n*.¹⁵ These types are shown in (19).

¹³ The specific form of these licensing conditions depends on the assumptions made about roots – specifically, about how much information they convey at what level of the grammar. It is possible to imagine the licensing conditions as syntactic selection of a root by *n*, as morphophonological conditions on the insertion of a particular root, or as conditions on the interpretation of certain roots in the contexts of certain *n*’s. It does not matter to the analysis which of these options is chosen, just that one of them exists.

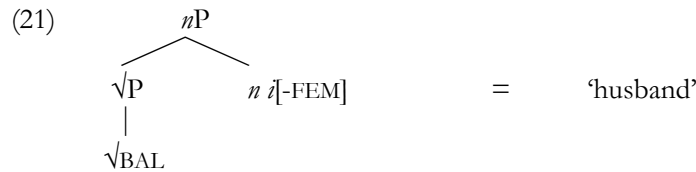
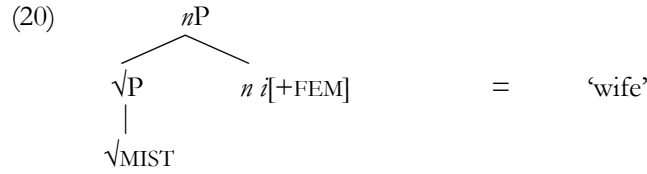
¹⁴ There are (at least) two additional non-lexical approaches to gender: Percus, 2010 and Josefsson, 2006. Percus assumes that gender is a feature merged during the derivation, and takes roughly the same approach to the interpretability of gender features as developed here and in Kramer, 2009. In her account of Swedish gender, Josefsson also assumes that gender features are merged during the derivation of a nominal phrase. However, both Percus 2010 and Josefsson 2006 are not focused on the exact syntactic location of the gender features (Percus suggests that they are somewhere in the *nP* but not necessarily *n*’s, Josefsson does not take a stand).

¹⁵ The interpretation of these features is perhaps something 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 how gender features work in pronouns (see e.g., Heim and Kratzer, 1998, among many others). See Percus, 2010 for extended discussion of the semantics of gender features.

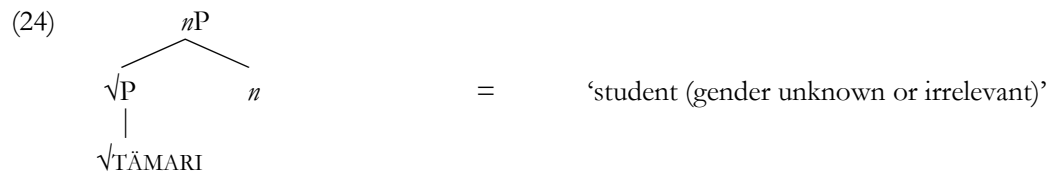
- (19) Types of *n* (incomplete list)
- a. *n i* [+FEM] Female natural gender
 - b. *n i* [-FEM] Male natural gender
 - c. *n* No natural gender (or natural gender irrelevant/unknown) = ‘plain’ *n*

A *n* with an interpretable [+FEM] feature is interpreted as female natural gender, a *n* with an interpretable [-FEM] feature is interpreted as male natural gender, and a *n* with no gender feature is interpreted as having no natural gender (or the speaker is choosing not to convey the natural gender of the referent). I will refer to this last type as ‘plain’ *n*.

The second ingredient is the licensing conditions mentioned above: licensing conditions determine which roots combine with which flavor of *n* (Acquaviva, 2009; see fn. 13). For example, Amharic different root nominals (e.g., *mist* ‘wife’ and *bal* ‘husband’) are licensed under either *n*[+FEM] or *n*[-FEM]. Note that Amharic is a head-final language and the trees below will be accordingly head-final.



Same root nominals (*tāmari* ‘student’) are licensed under any *n* in (19). When they combine with (19a), they make a female student, with (19b), a male student, and (19c) a student whose gender is unknown.



The nominal in (24) will be realized with masculine agreement since masculine is the default, and it is worth saying a bit more about how this is accomplished.

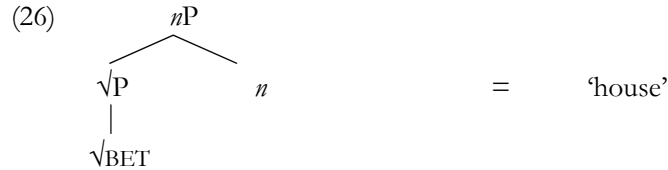
Recall that I assume morphophonological exponents are inserted after syntax. These exponents (henceforth ‘Vocabulary Items’) are pairings of bits of morphophonology and a set of features. There may

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 -- Vocabulary Items are often underspecified with respect to the feature bundles that they realize. 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. The Vocabulary Items for the definite marker, which realizes gender agreement, are in (25).

- (25) Vocabulary Items for the Definite Marker¹⁶
- a. D, [DEF], [+FEM] \leftrightarrow *-ma*
 - b. D, [DEF] \leftrightarrow *-u*

I assume that definite D agrees in gender with *n* (by whatever mechanism concord is accomplished with). A definite D with a [+FEM] feature will be realized as (25)a *-ma*. A D with a [-FEM] feature will be realized as (25b) *-u* since (25a) *-ma* has a non-matching feature. A D with no gender feature will also be realized as (25b) *-u* since (25a) *-ma* would have a feature ([+FEM]) not present on the feature bundle. Overall, any non-feminine D will be realized with the ‘masculine’ exponent (i.e., as the elsewhere case.) In general, then, the analysis predicts correctly that if a nominal is female, it will trigger feminine gender agreement, and if it is anything else (male, unknown natural gender), it will trigger masculine gender agreement.

So far we have seen how the analysis handles most of the animate nominals, but there remain the inanimates and the feminine default animals. Starting with the inanimates, the masculine inanimates (e.g., *bet* ‘house’) in fact come for free. They are licensed under ‘plain’ *n* since they do not have natural gender.



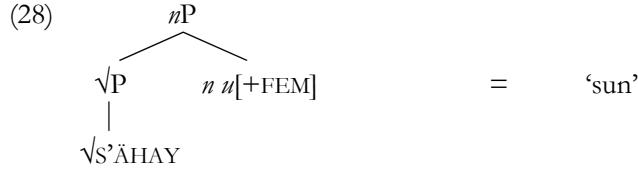
This will result in masculine gender as a default, exactly like when the natural gender is unknown/irrelevant for an animate nominal ((24)). All that is left is the third and final ingredient of the analysis for the feminine default animals and the feminine inanimates.

I propose that the feminine grammatical gender on inanimates and feminine default animals is the result of an uninterpretable [+FEM] feature on *n*, (27d).

- (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 grammatical gender

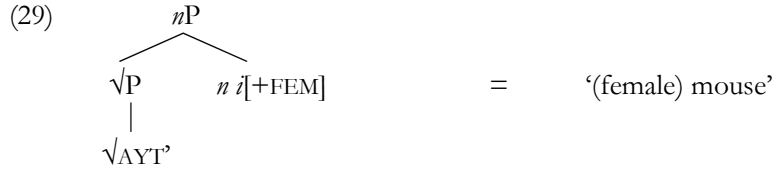
Language in general often has uninterpretable and interpretable versions of the same feature (e.g., number on nominals and on T), even on the same head (e.g., Pesetsky and Torrego, 2007: Q feature on C), so it is not unexpected to posit that gender also has uninterpretable and interpretable versions. Feminine inanimate nominals (e.g., *s’äbay* ‘sun’) are licensed only under this *n* *u* [+FEM].

¹⁶ If the definite marker is decomposed into a separate exponent for definiteness and a separate exponent for gender (see footnote 3), the Vocabulary Items will look slightly different. I assume that gender agreement between the D and the noun results in an Agr node being adjoined to the D (see e.g., Embick and Noyer, 2007, Halle and Matushansky, 2006). The feminine exponent will expone [Agr,+FEM] in the context of [D, [DEF]] and have the morphophonology *-a*. The other exponent will expone only the category Agr in the context of [D,[DEF]] and will have null morphophonology.

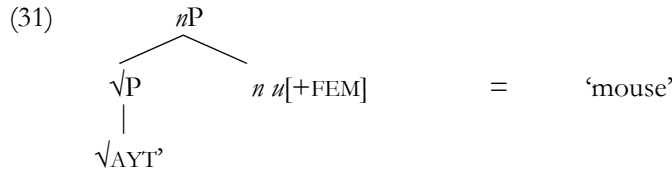


They surface with the same kind of agreement as a female nominal because they have a [+FEM] feature (albeit an uninterpretable one).

Turning finally to the feminine default animals, they are licensed under the interpretable *n*'s ((19)ab) when their natural gender is known, 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*).



Thus, when the natural gender of a feminine default animal is known, the nominal will have the natural gender of the referent. When the natural gender is unknown, it will have feminine gender.

Overall, I have developed a 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*. The system accounts for the residue of feminine grammatical gender in the language using uninterpretable version of the same feature on the same head: *n* *n*[+FEM].¹⁷ It is more successful than previous analyses in that all the Amharic facts are accounted for, there is no need for a discourse referent-lexicon connection, and there is no more 'calculation' of gender from natural gender.

Additionally, unlike almost all of the previous analyses, the current analysis is explicit about the (un)interpretability of gender features. In minimalism, every syntactic feature is either interpretable or uninterpretable at the semantics interface. Gender has conventionally been lumped in with the other phi features as interpretable, but feminine gender on e.g., *s'äbäy* 'sun' is not interpretable, especially not in the same way as, say, number is on a nominal.¹⁸ The present analysis provides a more nuanced approach to the

¹⁷ 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 four human nominals do (Harris 1991).

¹⁸ It has been proposed that grammatical gender *is* actually interpretable (see e.g., Dowty and Jacobson, 1988, Pesetsky and Torrego, 2007). However, the actual semantic interpretation of grammatical gender is unclear at best (see also Legate

interpretability of gender, allowing the gender feature of some nouns to be interpretable and of other nouns to be uninterpretable (see also Percus, 2010, who develops a similar approach from a largely semantic perspective). Overall, then, the analysis provides a way to integrate gender into the currently dominant syntactic theory in a way that makes sense both for gender as a phenomenon and within the theory, and it is one of the few analyses of gender to do so.¹⁹

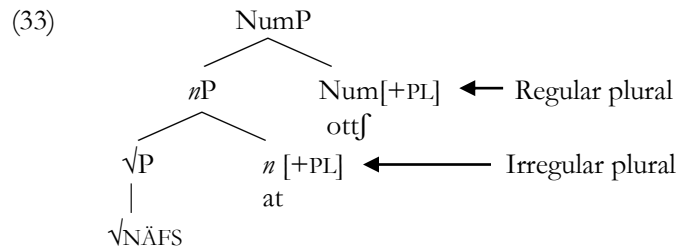
4.3 Additional Evidence for the Analysis

In this section, I show how the analysis is independently supported by additional evidence from Amharic including the interaction of gender and number, the distribution of the feminine suffix *-it*, and nominalizations.

Amharic has both a regular plural suffix *-ottf*²⁰ and a set of irregular pluralization strategies (different suffix, partial reduplication, phonotactic changes, some combination of these strategies, etc.). A regular plural is in (32a) and an irregular plural that takes a different suffix is in (32b).

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

There is evidence that irregular plural morphology does not compete with the regular plural suffix for morphophonological insertion at the same node (Kramer, 2009). For example, there are double plurals (e.g., *näfs-at-ottf* 'souls'), and every nominal with an irregular plural can be alternatively regularly pluralized (e.g., *näfs-ottf* 'souls'). Irregular plurals also show characteristics of the local relationship between a categorizing head and its root (Marantz, 2001; see Section 4.1), whereas regular plurals do not. In Kramer, 2009, I proposed that irregular plural morphology is a realization of *n* (cf. Lecarme, 2002), whereas regular plural morphology is the realization of Num. The derivation of a double plural under this approach is in (33).



The irregular plural suffix is a realization of a plural *n*, whereas the regular plural suffix is a realization of Num.

If *n* has a plural feature as well as a gender feature, it is predicted (*ceteris paribus*) (i) that irregular plurals in Amharic will be capable of varying with gender (cf. Somali plurals; Lecarme, 2002), and (ii) regular

2002, pp. 2-3 for discussion and criticism). A similar way of 'making' grammatical gender interpretable is that it is always checked/deleted by entering into an Agree relation with an interpretable version of the same feature; that interpretable feature has been proposed to relate to general nominal classification (Kihm 2005, Picallo 2008, Lowenstamm 2012). However, again, it remains unclear what the interpretation of that feature is.

¹⁹ In some versions of minimalism, uninterpretable features that are unchecked (e.g., grammatical gender) cause the derivation to crash (Chomsky, 2000, 2001). However, this assumption has been questioned (Legate, 2002, Pesetsky and Torrego, 2007, fn.15, Epstein et al., 2010, Carstens, 2011). In Pesetsky and Torrego, 2007, fn.15 and Legate, 2002, in particular, unvalued features cause a crash, and uninterpretable features are simply ignored by the semantics. Grammatical gender is uninterpretable but valued, so it would not cause a crash in this approach.

²⁰ In this paper, [tʃ] stands for a geminate affricate as per IPA conventions; this sequence is usually transcribed as [tʃtʃ] in previous work on Amharic.

plurals will not be (since they do not have gender). Both predictions are borne out. As shown in (34), certain irregular plurals are gendered: they take separate masculine and feminine suffixes.

- (34) k'iddus 'saint'
 k'iddus-an 'saints' (masc. pl. or mixed group)
 k'iddus-at 'saints' (fem. pl.)

However, no regular plurals vary with respect to gender; both masculine and feminine nominals take *-ottf*.

- | | | |
|------|--------------------------------|----------------------------------|
| (35) | <u>Masculine</u> | <u>Feminine</u> |
| | bet-ottf 'houses' | mākina-wottf 'cars' |
| | nägär-ottf 'things' | agär-ottf 'countries' |
| | abbat-ottf 'fathers' | innat-ottf 'mothers' |
| | tämari-wottf '(male) students' | tämari-wottf '(female) students' |

The restriction of gendered plurals to irregular plurals is puzzling unless gender is a feature on *n*, thus creating a feature bundle that has both gender and number features.

Gender and number also interact tellingly with respect to the female suffix *-it*. Nominals ending in *-it* are freely regularly pluralized (recall that every nominal has a regular plural).

- | | | |
|------|---|---|
| (36) | a. mänäk ^{ws} -it-ottf
monk-FEM-PL
nuns | b. arog-it-ottf
old.person-FEM-PL
old women |
| | c. muḡirr-it-ottf
wedding.participant-FEM-PL
brides | d. t'ot'-it-ottf
ape-FEM-PL
female apes |

However, nominals ending in *-it* cannot be irregularly pluralized.

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

In (37a), the root $\sqrt{\text{MÄNÄK}^{\text{SE}}}$ 'monk' can be nominalized and feminized with the addition of *-it* to mean 'nun.' The root can also be irregularly pluralized with the *-at* suffix, but the plural *-at* suffix and the feminine *-it* suffix cannot co-occur. A similar case involves the root $\sqrt{\text{MÄMHİR}}$ 'teacher' in (37b) it can be feminized via a suffix, but that suffix cannot co-occur with its irregular plural suffix.²¹

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

²¹ The irregular plurals here are not gendered: *mänäkosat* can refer to monks or nuns, and *mämhiran* can be used to refer to male or female teachers. Thus, it is not the case that *-it* is competing with, say the *-t* in *-at*. Thanks to an anonymous reviewer for clarifying this.

compete for insertion at the *n* node. Only one Vocabulary Item (either the feminine suffix or an irregular plural marker) may be inserted.²² Overall, the otherwise mysterious contrast between (36) and (37) falls out if gender is on *n*.

The final piece of evidence that gender is on *n* comes from nominalizations. In general, *n* is used not just to nominalize roots, but also to nominalize other syntactic categories (Marantz, 2001, Arad, 2003, 2005).²³ For example, a *n* can combine syntactically with a *v*P to create a deverbal noun, with a *a*P to form a deadjectival noun, and even with another *n*P to form a denominal noun.

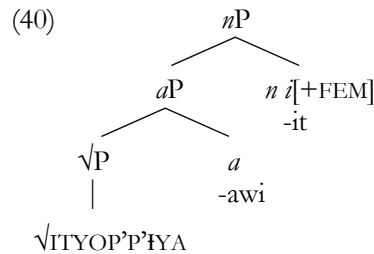
If *n* has a gender feature when it combines with roots, it is possible that it carries a gender feature when it combines with phrases (see Ferrari(-Bridgers), 2005, 2008). This prediction is borne out: nominalizations are often gendered across languages; some examples are in (38).

- (38) a. French deadjectival nouns are feminine (*la faibl-esse* ‘weakness’, *la modern-ité* ‘modernity’)
b. Middle Egyptian deverbal nouns with *-t* are feminine (ḏm-t ‘(a) proceeding’ Gardiner, 1957, p. 223)
c. German collective nouns are neuter (*Strauch* (m.) ‘bush’ → *Ge-sträuch* (neut.) ‘shrubbery’; Corbett, 1991, p. 50)
d. Luganda (Bantu) deadjectival nouns denoting humans are Class 1 (*gezī* ‘clever’ → *mu-gezī* ‘clever person’ (Ferrari, 2005, p. 56))

If gender is on *n* in Amharic, then it is predicted that nominalizations can be gendered in Amharic. This prediction is borne out, for both interpretable and uninterpretable gender features. For example, an adjective derived from the name of a country (e.g., *Ethiopian*) 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.)’ → b. ityop’p’iy-aw-it²⁴ ‘Ethiopian woman’
Ethiopia-ADJ Ethiopia-ADJ-FEM

The derivation of (39b) is in (40).²⁵



To take another example, Amharic has a highly productive diminutive formation for both inanimate and animate nominals (Leslau, 1995, pp. 167-169). There is not a consistent phonological correlate of

²² One might wonder why the irregular plural ‘wins’ the competition, i.e., why the plural suffix is inserted and not the feminine suffix when *n* is plural and feminine. I hypothesize that this is because the Vocabulary Item for the feminine suffix contains a [-PL] feature. This means that it would not match one of the features of the syntactic feature bundle for a plural *n*, and thus it could not be inserted (as per the Subset Principle; Halle, 1997). See Kramer, 2009, p. 261 for further evidence for a [-PL] feature as part of the Vocabulary Item for *-it*.

²³ Sometimes it is ambiguous whether *n* is attaching to already formed *x*P or to a root. See Arad, 2003 for arguments that the verb *tape* is formed by a null *v* attaching to an *n*P ‘tape’ whereas the verb *anchor* is formed by a null *n* attaching to the root √ANCHOR. I will assume *n* is attaching to already formed *x*P in all the examples below for concreteness.

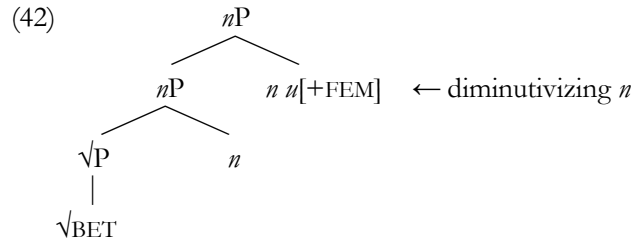
²⁴ The final vowel in the stem is deleted when the *-it* suffix is added in order to avoid hiatus. This is similar to other nominal suffixes that are vowel-initial, which also trigger deletion of a stem-final vowel (Leslau, 1995, p. 36).

²⁵ I assume that the adjective *ityop’p’iy-awi* ‘Ethiopian’ is deradical for concreteness, but it could also be denominal (i.e., derived from the *n*P *ityop’p’iya* ‘Ethiopia’). It does not matter to the argument here which option is correct.

diminutivization, but all diminutivized nominals trigger feminine agreement. The nominal *bet* ‘house’ is masculine, as shown in (41a) but can be diminutivized to trigger feminine agreement on the definite marker and on the verb ((41b)).

- (41) a. *bet-u* Non-Diminutive
house-DEF.M
‘the house’
- b. *bet-wa t-amir-all-ättf* 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 realizations of *n* (Wiltschko, 2006, Wiltschko and Steriopo, 2007, Steriopo, 2008). Diminutive nominals trigger feminine agreement in Amharic without any interpretation of female natural gender, and thus can be analyzed as nominalization via an uninterpretable [+FEM] feature on the diminutivizing *n*.



Therefore, both kinds of gendered *n* (interpretable and uninterpretable) can be used to nominalize *x*Ps in Amharic, lending support to the idea that gender is generally on *n*.²⁶

To sum up, there is significant evidence for gender being on *n* in Amharic from the interaction of gender and number, the quirks of the suffix *-it*, and gendered nominalizations.

5. Conclusion

The Amharic gender system is highly dependent on natural gender, and causes difficulty for previous gender analyses. To account for Amharic and address some independent problems with these analyses, I proposed that natural gender is an interpretable gender feature on *n*, grammatical gender is an uninterpretable gender feature on *n*, and licensing conditions determine which roots combine with which *n*. I showed how this analysis generates the Amharic gender assignment facts, and provided independent evidence in support of the analysis from related phenomena in Amharic.

²⁶ This analysis of diminutive gender raises the interesting question of what happens when a given nominal has more than one gender feature, e.g., if a different-root nominal like *bäre* ‘ox,’ which is licensed under a *n*[-FEM] is diminutivized. Cohen (1970, p. 77) reports that the resulting gender is feminine (*yäññif bäre* ‘this.F (cute) ox’). It is common (although not universal) that the gender feature on a diminutive morpheme determines the gender of the nominal, whether feminine as in Amharic, neuter (as in German and Yiddish), or masculine (as in some diminutives in Serbian-Croatian; Wechsler and Zlatić, 2003). It may be that the structurally highest gender feature is simply what agreeing elements first encounter when/if they probe down the tree, and thus this feature ends up as the gender of the nominal; see Kramer, 2009, Steriopo and Wiltschko, 2010, de Belder 2011, p. 264.

To wrap up, I would first like to return to the Spanish data presented in Section 3.2 in order to see how it works under a *n*-approach to gender. I then place the Amharic gender system in a diachronic context, speculating about how it developed and discussing some preliminary data on how it is changing.

One of the original shortcomings of earlier analyses was that they were difficult to extend to Amharic. Can the present analysis cover the languages treated in earlier work? I focus here on Spanish since its gender system has been extensively researched (Roca, 1989, Harris, 1991, Alexiadou, 2004). The generalizations that describe the Spanish gender system are repeated in (43).

- (43) ANIMATES: (cf. (15))
- a. Different-root nominals (*mujer* ‘woman’ vs. *hombre* ‘man’)
 - b. Same-root nominals (*estudiante* ‘student,’ *patriota* ‘patriot,’ *testigo* ‘witness’)
 - c. Animate nominals that have a fixed gender (*persona* ‘person.F’; also known as epicenes)

INANIMATES: Masculine or feminine arbitrarily (*domicilio* ‘house.M’ vs. *residencia* ‘residence.F’)

DEFAULT: masculine (Roca, 1989)

In terms of the *n* analysis developed in Section 4, Spanish different-root nominals are licensed under a particular interpretable *n*, e.g., *n*[+FEM] for *mujer*, *n*[-FEM] for *hombre*. Same-root nominals are licensed under any of the *n*’s in (19) (male, female, ‘plain’). For these nominals, the Spanish system is largely the same as Amharic, reflecting the generalization that in both languages, entities with natural gender tend to (in Amharic: always) have their gender be identical to their natural gender.

As for the inanimates in Spanish, some of them are licensed under plain *n* (*domicilio*), and others are licensed under *n* *u*[+FEM] (*residencia*). Spanish has many more nouns licensed under *n* *u*[+FEM] than Amharic, i.e., Spanish contains more feminine inanimate nouns than Amharic. For the animates with fixed gender (the ‘epicenes’), all that needs to be said is that many animals and a few humans are licensed *only* under *n* *u*[+FEM]. An example with *persona* is in (44).



This makes the correct prediction that when a Spanish speaker uses the word *persona* they convey nothing about the natural gender of the referent.

In general, it is straightforward to use the ingredients of the current analysis to analyze the Spanish gender system. There is no need for additional machinery or for adjusted assumptions. The main difference between Amharic and Spanish is in the proportion of roots that are licensed only under *n* *u*[+FEM]; this proportion is much larger in Spanish.

I speculate that this is because Amharic is ‘losing’ grammatical gender: over time fewer and fewer roots are being learned as licensed under *n* *u*[+FEM]. Of particular interest is the contrast between Spanish epicenes (animate, always feminine) and Amharic feminine default animals (feminine as default, but natural gender otherwise). I suggest that the feminine default animals are former epicenes, on a pathway of change towards having just natural gender.²⁷ Evidence for this hypothesis is that younger speakers treat feminine default animals as same-root nominals (masculine default, natural gender otherwise).

²⁷ Amharic is also not the only language with this type of gender system. As described in Payne, 1998, Maa(sai) also has certain animate nominals with a default gender that is overridden by their natural gender. It may be that this is a viable diachronic stage between a language that used to have grammatical gender and a language that lacks grammatical gender entirely.

If Amharic is ‘losing’ grammatical gender, then it must have had grammatical gender in the past. In fact, Ge’ez (an ancient Ethiosemitic language) is an indirect ancestor of Amharic, and it had a robust grammatical gender system. Ge’ez also had much more widespread gender agreement than Amharic (Lambdin, 1978), and the loss of this gender agreement in Amharic could have triggered a shift away from grammatical gender, similar to the loss of grammatical gender in English (Curzan, 2003, Platzner, 2005). There is some evidence for this in that for younger speakers (less than 25 years old), the shift is nearly complete. They tend to treat any feminine inanimate noun as a diminutive, and (as noted above) treat feminine default animals like same-root nominals. Thus, the gender system of Amharic is poised between two different types of gender systems: it used to be like one of the other Semitic languages or a Romance language, with many feminine inanimates displaying feminine gender. However, it is transitioning into a gender system where natural gender is key: all female entities have feminine gender, and all other nominals have masculine gender by default. Amharic therefore is important not just for the synchronic analysis of gender morphosyntax, but also for mapping out how gender systems can change and develop diachronically.

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