Gender features on n & the root: An account of gender in French¹

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Abstract

French presents a challenge to single feature gender analyses. For animate nouns natural sex is often realized instead of grammatical gender. Also, the sex and gender of epicene nouns – animates with fixed gender that allow no morphological representation of sex – can conflict. I argue for a two feature analysis, following Kramer's (2009) proposal for Amharic: one feature on n that represents natural sex and another on the root that represents grammatical gender. Utilizing elements from DM including licensing conditions and a version of AGREE (Pesetsky & Torrego 2007), this analysis is shown to account for all of the problematic French data.

0. Introduction

Though grammatical gender distinctions are commonplace in the world's languages, the syntax of gender is still up for debate. The only consensus is that a gender feature in the nominal phrase plays a role; the properties and location of this feature continue to be disputed.

¹ I am grateful to the audience at the 42nd LSRL, Géraldine Legendre, Akira Omaki, and Ruth Kramer for their thoughtful comments and questions.

In languages with gender distinctions, animate nouns have both grammatical gender and natural sex, which can conflict with each other.² For example, the French word for minister, *ministre*, is only feminine when the referent is female and masculine otherwise. How is the feminine allowed to surface in this particular instance? Additionally, a subset of French animate nouns known as epicenes (following Corbett 1991) does not allow the sex of the referent to be conveyed. Though they have an associated sex, they behave like inanimate nouns in only expressing gender.

Earlier syntactic accounts of gender propose a single feature housed in its own functional projection – GenP (Picallo 1991, 2008), on the noun itself (Alexiadou 2004; Ritter 1993), or on n ('little n,' Kihm 2005; Lowenstamm 2008) (see Section 2.1 for a description of this projection). All of these single feature analyses fail to account for conflicts of sex and gender in animate nouns.

Kramer (2009) proposes that there are two gender features: one on n representing natural sex and one on the noun representing grammatical gender. I show how representing sex and gender separately solves the problems posed by French animate nouns, particularly the epicenes. I also show how gender agreement supports a version of AGREE in which

² To distinguish the two, I refer to grammatical gender as 'gender' and natural sex as 'sex.' The terms 'masculine' and 'feminine' refer to the genders, while 'male' and 'female' refer to the sexes.

interpretability is not tied to valuation (Legate 2002; Pesetsky & Torrego 2007). Rather, unvalued features are probes that can be satisfied by both interpretable and uninterpretable goals.

The French gender paradigm is given in Section 1. In Section 2, I argue that two gender features within the nominal domain (Kramer 2009) are necessary to account for the possible conflicts of gender and sex laid out in Section 1 and that a division in unvalued and uninterpretable features is required to account for the French pattern of agreement. Section 3 expands on the single gender feature proposals and argues against them as viable alternatives. Section 4 concludes.

1. The French Gender Paradigm

French has two grammatical genders: masculine and feminine. While gender can be derived from the phonological form of some nouns, it is typically not morphologically marked on underived nominal forms.³ Rather, it is marked on the definite, indefinite, or possessive article, which agree in gender with the possessum (*ma maison*, "his/her house," where *maison* is feminine). While gender on inanimate nouns is purely formal and randomly assigned, gender on animate nouns is complicated because sex can play a role. Although gender and sex are not semantically or

³ Conversely, morphological marking of gender is common on derived forms.

conceptually equivalent, masculine articles are used for males and feminine articles for females. Animate nouns fall into three categories: sex differences expressed via suppletive forms, via a change to the stem or the determiner, and fixed gender nouns (the epicenes).

1.1 Suppletive forms

Animate nouns with suppletive sex distinctions are lexically differentiated by conflated sex and gender. Distinct and unrelated lexical items are used for males and females (cf. 'boy' vs. 'girl' in English).

Suppletive forms are usually used for animals when the sex of that animal has practical relevance (1) (Jones 1996).⁴ In some cases, there is a generic term for the animal type regardless of sex (1c).

(1) a. le bélier "the ram" b. la brebis "the ewe" c. le mouton "the sheep"

Human nouns of this category tend to refer to family relationships.

(2) a. le mari "the husband" b. la femme "the wife"

⁴ The examples in (1)-(3), (5), (7), and (10) are modified from Jones (1996).

1.2 Stem change

Sex can also be expressed via a change to the stem. Masculine is the default in French; thus, the stem is the male form, also used in the default case, and the modification creates the female form. This modification is somewhat regular and usually consists of the addition of the vowel -e, which alters the phonology of the word and often results in the pronunciation of the final consonant, see transcriptions in (3). This strategy is often used for differentiating animals by sex (3). In this section, (a) is the default/male form and (b) the female form.

(3) a. $le\ chat$ [lə ʃa] "the (male) cat" b. $la\ chatte$ [la ʃat] "the female cat"

Human nouns that utilize stem changes for sex distinctions usually refer to professional or social statuses (although not all professions exhibit sex in this way) (4)-(5).⁵

- (4) a. *le jumeau* "the (male) twin" b. *la jumelle* "the female twin"
- (5) a. *l'étudiant* "the (male) student" b. *l'étudiante* "the female student"

 5 (4) is from Byrne and Churchill (1986: 79–80).

When nouns begins with a vowel, (5), elision occurs; the definite determiner is reduced to l' regardless of gender. Phonology often maintains the sex distinction.

1.3 Article change

An additional strategy reserved only for humans is to change the form of the article by substituting the female (i.e., feminine) article for the default, masculine one (6). The actual noun stem is unchanged. Elision again occurs (7). Unlike in (5), there is no change to the phonological form of the stem; thus, sex must be determined based on context (e.g., modifying adjectives exhibit gender agreement).

- (6) a. *le ministre* "the (male) minister" b. *la ministre* "the female minister"
- (7) a. *l'enfant* "the (male) child" b. *l'enfant* "the female child"

1.4 Epicenes

Epicene nouns refer to animates with no morphological representation of natural sex. They have a fixed gender through which their sex cannot be expressed. There are both animal (8) and human epicenes (9).⁶ The (a) examples are masculine, the (b) examples are feminine.

- (8) a. le canari "the canary" b. la souris "the mouse"
- (9) a. le censeur "the principal" b. la personne "the person"

Interestingly, the gender of some human epicenes conflicts with the sex of their typical referents (Badecker 2007; Jones 1996). Classic examples of this discord are typically male sentries with feminine gender (10a), and typically female models with masculine gender (10b), see also (11).

(10)	a. la sentinelle	"the sentry"	(fem.)
	b. le mannequin	"the fashion model"	(masc.)
(11)	a. <i>la vigie</i>	"the lookout"	(fem.)
	b. le laideron	"the ugly girl/woman" (masc.)	

2. The Analysis

⁶ Human epicenes are becoming less frequent. New forms distinguishing sexes are becoming more widespread, especially in French Canada, though they are not officially recognized. The feminine forms are generated through changes to the masculine stem (Vinay & Darbelnet 1995; cf. Jones 1996); in (i) (Vinay & Darbelnet 1995), (a) is the previous epicene while (b) is the new, female/feminine counterpart.

Note the addition of -e in the feminine. Although this change is represented morphologically and orthographically, it is phonologically null (i.e., both are pronounced [profescer]).

⁽i) a. le professeur "the (male) professor" b. la professeure "the female professor"

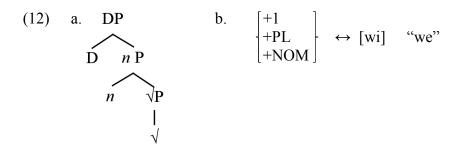
From the data provided in Section 1, it is clear that an account of French gender needs to explain grammatical gender, natural sex, and their possible conflicts in animates.

The analysis proposed here relies on aspects of Distributed Morphology (DM), specifically the existence of a nominalizing head (*n*) and lexical entries as bundles of features. Additionally, a version of AGREE in which unvalued and uninterpretable features are treated independently (rather than collapsed as in Chomsky (2001)) is utilized. Section 2.1 provides additional detail and explains why these assumptions are necessary. Kramer's (2009) two feature system is introduced in Section 2.2 and applied to French in Section 2.3.

2.1 Structure and mechanisms of the analysis

In DM, morphological processes occur on the PF branch after the syntax (Embick & Noyer 2007; Halle & Marantz 1994). Category-neutral roots ($\sqrt{}$) are inserted into the lexical heads (N and V) and are dominated by heads that categorize the root (n, which nominalizes and v, which verbalizes). This results in a projection between DP and $\sqrt{}$ P motivated independently of gender (12a). Crucially, n provides a head within the

nominal domain on which a second gender feature can be housed.⁷ After all syntactic processes have been completed, the category-neutral roots are replaced by Vocabulary Items (VIs). VIs are the DM foundation of the lexicon and are bundles of syntactic, semantic, and morphological features matched with the phonological features for that particular combination. (12b) is a simplified VI for the first person plural pronoun, *we*.



Additionally, I adopt a modified version of the AGREE operation (cf. Chomsky 2001) in which uninterpretable and unvalued features are not collapsed (Pesetsky & Torrego 2007; cf. Legate 2002 for an incomplete partition of the two). In Chomsky's original proposal, features are uninterpretable only if they are also unvalued. The grammatical gender feature, however, is uninterpretable but valued. It is uninterpretable because it is purely formal and unrelated to the semantic meaning of the noun (cf. sex which is a biological fact about the referent and, thus,

⁷ Many minimalists also adopt nP, but it is less well motivated; the projection is proposed mostly via analogy to vP in the verbal domain.

interpretable). It also must be valued because every noun is assigned a grammatical gender. Pesetsky and Torrego's (2007) version of AGREE allows unvalued and uninterpretable features to act independently. Unvalued features (and not uninterpretable ones) are probes, which search down the tree for a matching valued feature (the goal) and are assigned the value of that matching feature.

2.2 Two positions for gender features

Focusing on Amharic nominals, Kramer (2009) proposed a split system in which gender is a feature on the root, while sex is a feature on the n head. In Amharic, this pattern is required to handle feminine defaults: while sex generally overrides gender in animate nouns, some such nouns are feminine in their default form (13) (Kramer 2009).

Kramer's system accounts for these by allowing gender to emerge when sex is unavailable; for the feminine defaults, this gender is [+fem]. The two gender features allow feminine to act as a default.

Situating the gender feature on the root means that it is randomly assigned. This accounts for the fact that gender on nouns (particularly

inanimates) does not seem to pattern in any particular way. Both features, whether describing gender or sex are represented as $[\pm fem]$ given that masculine is generally the default in a two gender system; I also adopt this notation. Thus, the gender feature on the root must be either [-fem] (masculine) or $[\pm fem]$ (feminine). As sex features are represented on n, at least two n heads must be possible: one associated with the $[\pm fem]$ feature (male) and another associated with the $[\pm fem]$ one (female). Kramer proposes a third, underspecified n head with no sex feature. This head is required for nouns with no natural sex (i.e., inanimates), situations in which default gender is expressed, and as shown below, for the agreement pattern of French epicenes (see Section 2.3.1).

(14)
$$n[+fem]$$
 Female natural sex
 $n[-fem]$ Male natural sex
 n No natural sex / Defaults

Although there are two possible goals, both n and the root have valued gender features, agreement occurs with the highest feature because probing happens down the tree. This means that agreement is with natural sex unless n is underspecified; then, agreement with grammatical gender emerges. Thus, the default is the underlying gender feature on the noun.

Importantly, the two feature analysis allows sex and gender to have distinct properties, as required by French epicenes. The correct agreement patterns are obtained by licensing conditions on these n heads. Licensing

conditions are rules that determine the subset of n heads, (14), that can combine with a particular root. Consequently, each (category of) root has its own conditions that limit the nominalizing heads with which it can merge.

2.3 Explaining the French pattern

A system with two positions for gender features obtains the correct results for the French gender paradigm. Below are the licensing conditions for the French nominals presented in Section 1:

- (15) Summary of licensing conditions for (underived) French nominals
 - a. Inanimates: *n*
 - b. <u>Suppletive forms</u>: *n*[+fem], *n*[-fem]
 - c. Stem change: n[+fem], n[-fem], n
 - d. Article change: n[+fem], n[-fem], n
 - e. Epicenes: n

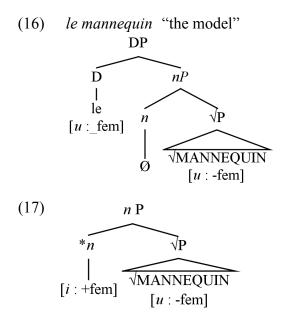
The remainder of this section demonstrates how these conditions result in the correct gender agreement pattern for the French data. First, I present the analysis of the problematic cases of (i) epicenes and (ii) animates whose male and female forms are related (stem and article change). The more straightforward cases of suppletive animates and inanimates follows.

In a departure from Kramer (2009), the analysis of French assumes that every root has a grammatical gender feature. Amharic inanimate nouns are masculine minus a handful of exceptional feminine ones; thus, Kramer suggests that only feminine roots have a gender feature, while all other roots are masculine by default. In French, every root is systematically assigned gender and the feminine is more prevalent than in Amharic. Therefore, the feature specification of all French roots is assumed to contain a gender feature assigned by the grammar.

2.3.1 Epicenes

The licensing conditions for the epicene nouns explain the fact that they do not allow the expression of sex. They are only licensed to combine with the underspecified n (i.e., the one with no sex feature) and always act as if natural sex is not relevant (16).⁸ Thus, they express their grammatical gender represented on the root (which can be masculine or feminine). This allows sex and gender to be in conflict; even though epicenes are animate, they do not allow the sex of their referents to surface.

⁸ In this tree and those that follow: (i) (un)interpretable features are marked before the colon (with u or i); (ii) unvalued features are marked with a blank line ('_'), while valued features are marked '+' or '-'; (iii) the feature arrays in these derivations are simplified to include only gender; and (iv) the lexical heads are represented in my trees for clarity's sake.



The uninterpretable and unvalued feature on D is a probe and searches down the tree for a matching, valued feature. Because there is no gender feature on n, it ultimately agrees with the uninterpretable and valued feature on the root, which represents gender, and is valued in the same way, [-fem]. This results in the masculine (article le). The same process occurs if the noun is feminine, except the feature on the root is [+fem], and the feature on D is valued thusly, producing the feminine (article la).

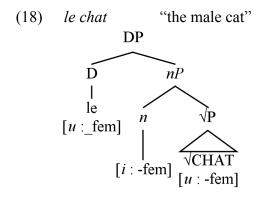
Conflicts in sex and gender arise when an epicene's grammatical gender does not match its stereotypic sex (10). (17) demonstrates that an n

with a gender feature cannot be merged with an epicene root. Thus, sex can never override gender within a nominal phrase.⁹

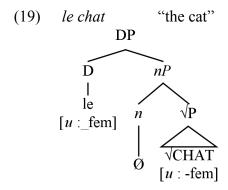
2.3.2 Stem and article change nouns

For nouns that express sex via a change to the stem, all three n heads are licensed: n[-fem] when the referent is male (18), n[+fem] when the referent is female, and the underspecified n in the default case (i.e., when the sex of the referent is unknown or unimportant) (19).

In (18), the unvalued feature on D probes for the valued sex feature on n and agrees with it, resulting in the masculine.



⁹ See Badecker (2007) for examples of sex overriding gender at the sentential level.



In the case of a female cat, *la chatte*, the feature on n is [+fem], which indicates that the referent is female. Thus, the unvalued feature on D agrees with this sex feature and results in the feminine. The root is identical to that in (18), $\sqrt{\text{CHAT}[u:\text{-fem}]}$.

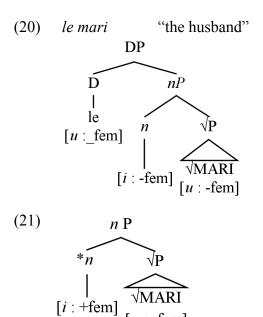
In the default case (19), n is underspecified and has no sex feature. Thus, D must agree with the gender feature on the root. Because the grammatical gender of *chat* is masculine, the feature on D is valued as [fem].

There is a lingering question with these nouns, however: where does the change in the stem originate? I assume that the same root is used in both male and female constructions and remain agnostic as how the additional phonological information arises. While solving this problem is outside of the domain of this paper, it seems plausible that the additional material may be the overt realization of the n head.

Nouns that express sex via a change to the article have identical licensing conditions and behave in the same way as the stem change strategy. In other words, they can combine with any of the n heads. The result is the same patterns seen above, minus any phonological change to the root. Therefore, there is nothing controversial in assuming that the male, female, and default forms share the same root.

2.3.3 Suppletive forms

Because sex and gender are conflated when sex distinctions are suppletive, the feature value on the n head that merges with a suppletive root must match the value of the gender feature on that root. In other words, a masculine root must combine with the n[-fem] and a feminine root must combine with the n[+fem] (20).

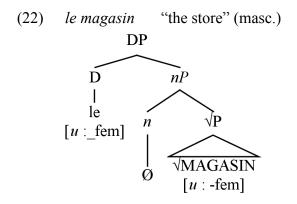


In (20), the agreement between D and the (interpretable) valued feature on n, [-fem], produces the masculine.

Unlike the other licensing conditions, which state the set of n heads that are allowed to combine with any root in the particular category, the conditions for suppletive forms additionally require that the feature on n match the valuation of that on the root. Thus, both n[-fem] and n[+fem] have the property that they cannot combine with every root of this type; only one of the two is licensed. It is ungrammatical to merge the female n head with the male root mari (21).

2.3.4 Inanimates

Inanimate nouns can only combine with the underspecified n head because they cannot have natural sex (22).



2.4 Interim conclusion

By splitting gender between grammatical gender on the root and natural sex on the n head, we have accounted for all of the French data presented in Section 1. The three options for gender features on n (i.e., n[-fem], n[+fem], and the underspecified n) combined with the licensing conditions in (15) explain the interactions and conflicts of sex and gender. For suppletive forms, licensing conditions ensure that sex matches the gender of the root. Natural sex can override gender in stem and article change nouns, while it is prohibited from playing a role in gender agreement for epicenes. Thus, the only gender feature that can surface for epicenes (as well as for inanimates and default cases) is the grammatical gender on the root.

3. Against single feature analyses

In the previous section, I argued that the French gender paradigm requires the representation of both grammatical gender on the root and natural sex on n. This, however, does not prove that a single feature could not account for the same data. In the following section, I examine the major proposals for the location of a single gender feature: (i) on the head of its own projection (Picallo 1991, 2008); (ii) on the noun head or root (Alexiadou

2004); and (iii) on n (Lowenstamm 2008). I examine them in turn and discuss the problems that the French data poses for each.

3.1 GenP: The gender projection (Picallo 1991, 2008)

On the basis of Catalan data, Picallo (1991) proposes that the gender feature heads its own projection in the nominal domain (GenP, later ClassP in Picallo 2008). The argument for a gender projection relies in part on the fact that Catalan gender is morphologically realized (i.e., one suffix for masculine and another for feminine).

Following Chomsky (1995), Alexiadou (2004) argues that only interpretable features can head independent projections, and gender is uninterpretable (see 2.1). Furthermore, gender does not have distinctive morphology in many languages. French gender is a characteristic of the root and is morphologically unmarked in underived forms. It is unclear how an element that appears in a discrete projection could be incorporated as inherent to the root. Given that gender is uninterpretable and inconsistently realized as a distinct morpheme, it should not head its own projection. Because gender is involved in Romance noun-adjective agreement, however, it must be present in the syntax. Therefore, gender must be a feature on a pre-existing projection within the nominal domain.

3.2 Gender on N (Alexiadou 2004)

Based on adjectival agreement in several languages, Alexiadou (2004) contends that the gender feature is housed on the head of the NP. Gender can also be determined via agreement with a discourse referent. This second option is Alexiadou's attempt to account for natural sex, although no procedure for how this assignment would occur is given.

The French stem and article change nouns (i.e., nouns with a shared stem for default/male and female forms) provide a challenge for this proposal. Allowing gender on the root would require these nouns to have two roots, even though they are clearly morphologically and semantically related.

- (23) a. √ENFANT [-fem] b. √ENFANT [+fem]
- (24) a. √CHAT [-fem] b. √CHATTE [+fem]

Requiring separate roots – and, therefore, separate lexical entries – does not capture the clear relation between the two (i.e., that they both derive from the same underlying stem). Additionally, two lexical entries generate the potential for the wrong form to be inserted in the default case; it is not clear how to prevent the feminine forms (the (b) examples) from being used when gender is irrelevant or not known.

For these reasons, gender on the root is also not a sufficient explanation for the French data (for related counter-arguments in Amharic, see Kramer 2009).

3.3 Gender on n (Lowenstamm 2008)

As mentioned above, the adoption of DM affords a new functional projection within the NP domain, nP. Unlike GenP, however, it is independently motivated as a full projection because of its role in nominalizing the root. Adopting DM, Lowenstamm (2008) proposes that the gender feature is housed on the nominalizing head in French.

In his analysis, Lowenstamm (2008) proposes an n for each gender present in a language. For French, there are two: one for masculine and one for feminine. Having the gender feature on n eliminates the problem of multiple roots (see 3.2); a root acquires its gender by merging with an n head containing a gender feature. How is natural sex to be expressed in this limited paradigm? Assuming we retain the binary n head, natural sex and grammatical gender would have to be conflated with the [\pm fem] feature:

(25) n[+fem] Female sex / Feminine gender n[-fem] Male sex / Masculine gender

But sex and gender can, and often do, come in conflict. When sex and gender are conflated, the feature indicating a particular gender automatically indicates the corresponding sex. Thus, neither of these heads is appropriate for a female animate with masculine gender (*la chatte* (3b)) or for a stereotypically male epicene with feminine gender (*la sentinelle* (10a)).

Additionally, sex is an interpretable feature based biological fact, while gender is an uninterpretable feature randomly assigned to nouns. Presumably, a feature cannot be simultaneously interpretable and uninterpretable. Therefore, collapsing sex and gender to a single version of a feature is not sufficient to handle French animates. Clearly French requires a more sophisticated system that allows sex and gender to be expressed independently.

4. Conclusion

In conclusion, the two gender feature analysis solves several cross-linguistic problems, including feminine defaults in Amharic (Kramer 2009) and gender conflicts in French epicenes. Unlike the single feature analyses, the two gender features analysis represents natural sex and grammatical gender independently in the syntax of the nominal phrase. In turn, the account proposed here supports the DM proposal that nP is the

nominalizing head of category-neutral roots, as its existence is required to house the sex feature. It also supports Pesetsky and Torrego's (2007) version of AGREE in which unvalued and uninterpretable features are not interchangeable. There remains the open question of how the additional phonological material is generated in root changing gender transformations from the default/male form to the female one. Lowenstamm (2008) suggests that the n head may contain phonological material that is merged with the root; such an analysis may provide the basis for an explanation of the additional phonology of stem change animates.

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