

Different number, different gender: Comparing Romanian and Guébie

Ruth Kramer
Georgetown University
rtk8@georgetown.edu

Hannah Sande
University of California, Berkeley
hsande@berkeley.edu

Abstract: Many languages contain nouns that seem to have different genders in the singular and in the plural. In this paper, we investigate two languages with this kind of “ambigeneric” noun: Romanian (Romance; Romania) and Guébie (Kru; Côte d’Ivoire). Romanian is well-known for its ambigeneric nouns, traditionally referred to as neuter, but ambigeneric nouns in Guébie have not been previously studied. While Guébie is unrelated to Romanian, and its gender system is based on different features, the ambigeneric nouns in the two languages are strikingly similar. Building on the analysis of Romanian in Kramer 2015ab, we argue for a unified Distributed Morphology analysis of ambigeneric nouns in Romanian and Guébie. Specifically, we claim that (i) ambigeneric nouns lack gender features, and (ii) the ambigeneric pattern is generated through a handful of Impoverishment operations. We show how alternative approaches to ambigeneric nouns face empirical and conceptual challenges in accounting for Romanian and Guébie. Overall, the analysis supports the cross-linguistic approach to gender features developed in Kramer 2015a, where “neuter” nouns lack gender features, and it provides evidence in favor of a Distributed Morphology approach to ambigeneric nouns in general.

Keywords: gender, number, Kru, Romanian, syncretism, Distributed Morphology

1 Introduction

Many languages contain nouns that seem to have different genders in the singular and in the plural (see e.g., Corbett 1991: Chapters 6 and 7). For example, in Italian, the noun *braccio* ‘arm’ is masculine, but it can be pluralized as *braccia* ‘arms’ which triggers feminine agreement (Acquaviva 2008:126). We refer to nouns that behave in this way as ambigeneric throughout this paper (on this term, see e.g., Mallinson 1984; Corbett 1991; Giurgea 2014).

Although it is not uncommon for a language to have ambigeneric nouns, the details vary across languages. For example, there is variation in whether many nouns are ambigeneric (yes: Sidaama (Kramer & Teferra 2020); no: Italian (Acquaviva 2008)), in whether the ambigeneric nouns form a natural class (yes: Telugu (Corbett 1991); no: Somali (Lecarme 2002)), and in whether the plural forms have special interpretations (e.g., group/collective in Hijazi and Najdi Arabic; Kramer & Winchester 2018). The most challenging cases are ambigeneric nouns that do not form a natural class and do not trigger any special interpretation. For these nouns, the change in gender cannot be attributed to the presence of a particular morphosyntactic feature (= natural class) or to a particular syntactic projection that adds the special interpretation and has a gender feature (as in e.g., Kramer & Winchester 2018).

In this paper, we examine two languages with this kind of “challenging” ambigeneric noun: Romanian (Romance; Romania) and Guébie (Kru; Côte d’Ivoire). Romanian is well-known for its ambigeneric nouns, traditionally referred to as neuter nouns; they have been the

subject of linguistic research for decades (from at least Graur 1937 and Bazell 1937 to Matushansky 2022). While Guébie is unrelated to Romanian, and its gender system is based on different kinds of features, its ambigeneric nouns are strikingly similar to Romanian. Unlike Romanian, Guébie has been described only recently (Sande 2017, 2018, 2019a, 2019b, 2022) and its ambigeneric pattern has not been previously investigated.

Building on the analysis of Romanian in Kramer 2015ab, we argue for a unified Distributed Morphology analysis of ambigeneric nouns in both languages. Specifically, we claim that (i) ambigeneric nouns lack gender features (following Farkas 1990 and Giurgea 2014; *pace* Matushansky 2022), and that (ii) the ambigeneric pattern is generated through a handful of simple Impoverishment operations (following Kramer 2015b; Matushansky 2022; *pace* Bateman & Polinsky 2010, Giurgea 2008). The analysis also supports the cross-linguistic analysis of gender features developed in Kramer 2015a, where “neuter” nouns lack gender features, and it provides evidence in favor of a Distributed Morphology approach (as opposed to a syntactic approach or a lexicalist approach) to ambigeneric nouns in general.

We begin in Section 2 by walking through the Romanian ambigeneric pattern and introducing Kramer’s (2015ab) analysis. In Section 3, we introduce ambigeneric nouns in Guébie and show how the Impoverishment analysis explains them. In Section 4, we address alternative approaches to ambigeneric nouns, including syntactic approaches (Giurgea 2008), lexicalist approaches (Bateman & Polinsky 2010), and approaches where ambigeneric nouns are specified for gender features (Matushansky 2022). We provide evidence against syntactic and lexicalist approaches, and suggest that an analysis where ambigeneric nouns are specified for gender features has some non-ideal consequences. Section 5 concludes with discussion of the implications of the analysis from a broader perspective.

2 An Impoverishment analysis of Romanian

In this section, we present Romanian ambigeneric nouns as well as the key components of Kramer 2015a (Section 2.1). Building on Kramer 2015b, we then propose an Impoverishment analysis of the ambigeneric patterns (Section 2.2).

2.1 Ambigeneric nouns in Romanian

There are three patterns of nominal agreement in Romanian: feminine (1), masculine (2), and neuter (3).

| | | | |
|-----|---|--|------------------|
| (1) | a. casă frumoas-ă house beautiful-FSG ‘beautiful house’ | b. case frumoas-e houses beautiful-FPL ‘beautiful houses’ | Feminine |
| (2) | a. trandafir frumos-Ø rose beautiful-MSG ‘beautiful rose’ | b. trandafiri frumoş-i roses beautiful-MPL ‘beautiful roses’ | Masculine |
| (3) | a. palton frumos-Ø coat beautiful-MSG ‘beautiful coat’ | b. paltoane frumoas-e coats beautiful-FPL ‘beautiful coats’ | Neuter |

(Bateman & Polinsky 2010:43)

Neuter nouns are ambigeneric: they trigger masculine agreement in the singular (*frumos-Ø* ‘beautiful’ in (3)a) and feminine agreement in the plural (*frumoas-e* ‘beautiful.FPL’ in (3)b). The neuter nouns comprise a significant number of the nouns in the language, they do not form a

natural class¹, and there is no particular additional interpretation associated with their plural forms. Therefore, Romanian represents the most challenging kind of ambigeneric pattern mentioned in Section 1, where ambigeneric agreement is pervasive and there is no clear linguistic property of the ambigeneric nouns to associate with the change in gender.²

Perhaps accordingly, Romanian ambigeneric nouns have been the focus of much previous research (see e.g., Bazell 1937; Graur 1937; Hall 1965; Jakobson 1971; Mallinson 1984; Farkas 1990; Chitoran 1992; Lumsden 1992; Farkas & Zec 1995; Maurice 2001; Giurgea 2008; Croitor and Giurgea 2009; Bateman & Polinsky 2010; Giurgea 2014; Kramer 2015ab; Maiden 2016; Taraldsen 2017; Loporcaro 2018; Maiden et al. 2021, among others). Much of this work treats the ambigeneric pattern as a type of syncretism (see e.g., Farkas 1990; Kramer 2015ab; Taraldsen 2017, among others). From this perspective, ambigeneric nouns have distinct underlying morphosyntactic features from masculine and feminine nouns, but this difference is not reflected morphologically. Instead, ambigeneric noun agreement and masculine agreement are syncretic in the singular and ambigeneric noun agreement and feminine agreement are syncretic in the plural. In other words, ambigeneric nouns lack their own unique agreement markers (see explicit statements of this in Noyer 1998; Farkas & Zec 1995:92; Baerman et al. 2005:85-86).

In this paper, we adopt this perspective as well: the Romanian ambigeneric pattern is a kind of non-natural class syncretism. We follow Kramer (2015ab) and Matushansky (2022) in analyzing this syncretism in the framework of Distributed Morphology (DM³), and we now lay out the DM analysis of Romanian ambigeneric nouns from Kramer 2015a (see Section 2.2 on Kramer 2015b and Sections 4.2 and 4.3 on Matushansky 2022).

To start, Kramer (2015a) proposes that Romanian has three fundamental types of nouns with respect to gender, shown in (4). Gender features are located on *n* (a nominalizing head).

(4) Gender Features for Romanian: Kramer 2015a

- a. Feminine: *n* [+FEM]
- b. Masculine: *n* [-FEM]
- c. Ambigeneric: *n* (No gender features)

In the Romanian lexicon, *n*'s can be specified as [+FEM], [-FEM], or lacking in gender features altogether (see Harbour 2011 on a similar three-way distinction for number). Crucially, it is the ambigeneric nouns that lack gender features (cf. Farkas 1990; Giurgea 2014). According to Kramer 2015a, in Romanian, feminine and masculine features can be either semantically interpretable (leading to an interpretation of female-ness or male-ness) or uninterpretable (i.e., semantically inert, as with inanimate nouns). Licensing conditions that hold between roots and categorizing heads generally match up the right root with the right *n* (Kramer 2015a: Ch.3).

Given the gender features in (4), Kramer (2015a) proposes the Vocabulary Items for adjectival agreement inflection in (5) in order to generate (1)-(3).⁴

¹ Most neuter nouns are inanimate, but inanimate nouns are also found in the other genders (see (1), (2)).

² See also Giurgea 2014 on a similar pattern in Albanian.

³ DM approaches to Romanian ambigeneric nouns descend directly from earlier underspecificational approaches like Farkas 1990 and Chitoran 1992.

⁴ We have made two minor modifications to the Vocabulary Items in (5). First, we removed an unspecified categorial feature because it is not relevant here. Second, we fixed a typo in associating one of the plural exponents with features.

(5) **Vocabulary Items for Romanian Adjectival Inflection: Kramer 2015a (p. 174)**

- a. [+FEM] ↔ -ă
- b. [] ↔ -∅
- c. [-FEM],[+PL] ↔ -i
- d. [+PL] ↔ -e

Because ambigeneric nouns lack gender features, they must trigger insertion of (5)b in the singular like masculine nouns and (5)d in the plural like feminine nouns. (4) and (5) thus suffice to capture the ambigeneric noun agreement syncretism.

However, as Matushansky (2022) points out, (5) has some drawbacks. First, both (5)a and (5)d match a feminine plural feature bundle equally (they each match one of its features), so it is necessary to appeal to some additional stipulation like a feature hierarchy to settle the tie (Kramer 2015a:174). Second, and more seriously, (5) misses the systematic generalization that neuter nouns are ambigeneric across all the agreement markers in Romanian. In other words, the syncretism of masculine/neuter agreement in the singular and feminine/neuter agreement in the plural is a metasyncretism (Williams 1994; Bobaljik 2002): it occurs not just with Vocabulary Items for adjectival inflection, but across all agreement markers, no matter which Vocabulary Items are inserted. For example, the same pattern is found in the agreement on the numerals ‘one’ and ‘two,’ even though at least some of the Vocabulary Items involved are distinct from adjectival inflection, (6)-(8).

| | | | |
|-----|---|---|------------------|
| (6) | a. o femeie a.FSG woman ‘a woman’ | b. două femei two.FPL woman.FPL ‘two women’ | Feminine |
| (7) | a. un bărbat a.MSG man ‘a man’ | b. doi bărbați two.MPL man.MPL ‘two men’ | Masculine |
| (8) | a. un glas a.MSG voice ‘a voice’ | b. două glas-uri two.FPL voice-PL ‘two voices’ | Neuter |

(Maurice 2001:231)

The list of agreement targets in Romanian includes various determiners, demonstratives, numerals, certain verbal forms, and adjectives, and all of them show the same ambigeneric pattern with neuter nouns (Maurice 2001:231; Dindelegan 2013:Ch. 12; Dobrovie-Sorin & Giurgea 2013:2). Under Kramer 2015a, each of these agreement targets would coincidentally happen to have the same arrangement of features on Vocabulary Items as adjectival inflection in (5).

2.2 An Impoverishment analysis of Romanian ambigeneric nouns

In order to capture the metasyncretism of Romanian ambigeneric noun agreement, we use the Distributed Morphology operation Impoverishment (this idea was originally proposed in a handout (Kramer 2015b), which was cited and then developed further in Matushansky 2022). Impoverishment deletes one or more morphosyntactic features from a feature bundle before Vocabulary Insertion, often causing a default (or less marked) Vocabulary Item to be inserted (see Bonet 1991; Noyer 1998; Bobaljik 2002; Harley 2008; Nevins 2011). It is commonly used in Distributed Morphology to capture metasyncretisms, especially gender syncretisms that occur

in the context of a particular number (see e.g., Bobaljik 2002; Bailyn & Nevins 2008; Harley 2008; Nevins 2011; Kramer 2016, 2019). For example, in Russian, plural agreement does not express any gender distinctions (Bobaljik 2002:58); in other words, there is always a single marker for plural agreement used across masculine, feminine and neuter nouns, no matter the kind of plural agreement (verbal inflection, adjectival agreement, pronouns, etc.). This can be accounted for by the Impoverishment rule in (9), which removes gender features in the plural.

(9) **Gender Impoverishment in the Plural in Russian (Bobaljik 2002:61)**

[gender] → ∅ / [plural]

The result is that all plural agreement feature bundles lack gender features, and thus gender cannot affect Vocabulary Insertion for plural agreement feature bundles.

Returning now to Romanian, we propose two Impoverishment operations to account for the ambigeneric agreement. In singular feature bundles, the masculine feature is deleted via Impoverishment, (10).

(10) **Romanian: Impoverishment of the Masculine in the Singular**

[-PL] → [-PL]
[-FEM]

After (10) operates, masculine and ambigeneric agreement feature bundles are identical, and thus they both must be exponed using the same Vocabulary Item, regardless of the kind of agreement (adjectival, demonstrative, etc.). To take a specific example, the Vocabulary Items for singular adjectival inflection are in (11).

(11) **Vocabulary Items for Adjectival Inflection**

- a. [+FEM] ↔ -ă
- b. [] ↔ -∅
- c.

Since [-FEM] has been deleted from the masculine feature bundle as per (10), (11)b must be inserted for both masculine and ambigeneric (“neuter”) agreement.

In the plural, an Impoverishment operation removes the feminine feature, (12):

(12) **Romanian: Impoverishment of the Feminine in the Plural**

[+PL] → [+PL]
[+FEM]

The Vocabulary Items for plural adjectival inflection are in (13).

(13) **Vocabulary Items for Plural Adjectival Inflection**

- a. [+PL][-FEM] ↔ -i
- b. [+PL] ↔ -e

The Impoverishment operation renders ambigeneric and feminine featurally identical no matter what Vocabulary Item is ultimately inserted. For adjectival inflection, (13)b must be inserted for both.⁵

There is an additional benefit to the Impoverishment analysis. As Matushansky (2022) observes, an Impoverishment approach not only systematically captures the metasyncretism; it also solves the ‘tie’ in Vocabulary Insertion. A feminine plural feature bundle undergoes the Impoverishment rule in (12), which removes its feminine gender feature. As a result, only (5)d (and not (5)a) is a match for the feature bundle.

Overall, the gender features and Vocabulary Items proposed in Kramer (2015a), combined with the two Impoverishment operations in (10) and (12), generate the Romanian ambigeneric pattern and solve the two problems identified for Kramer’s (2015a) original analysis. The gender features in (4) are a common kind of gender system (see Kramer 2015a: Ch.7), and Impoverishment operations that delete gender features in the context of a particular number are necessary for any language that reduces gender distinctions in, say, the plural. Therefore, the analysis is comprised of independently necessary components and does not require any novel tools. We next show how these same tools can be used to analyze ambigeneric nouns in Guébie.

3 Ambigeneric nouns in Guébie

In this section, we provide some background on Guébie and its gender system (Section 3.1), and then briefly lay out the analysis of the gender system in Sande 2019a (Section 3.2). In Section 3.3, we present the ambigeneric nouns, and in Section 3.4, we show how the analysis of Romanian developed in Section 2 extends easily to the Guébie data.

3.1 Gender in Guébie

Guébie (iso: gie) is a Kru language spoken in Côte d’Ivoire, and the data presented here come from a corpus collected between 2013 and 2022, with native speakers of the language in the US, Canada, and Côte d’Ivoire. It is closely related to other previously described Kru languages, in particular Vata and Dida Lakota (Kaye 1981, 1982; Marchese 1983; Koopman 1984; Koopman & Sportiche 1986). However, Guébie was undescribed until Sande (2017), and various aspects of the language have since been described and analyzed (Sande 2018, 2019a, 2019b, 2020, 2022). The gender agreement system is described in Sande 2019a, but it has not been previously recognized that Guébie contains ambigeneric nouns. Because Guébie is very underdescribed compared to Romanian, we spend some time in this section laying out its gender system in detail.

In Guébie, human nouns and non-human nouns trigger different agreement markers on adjectives and pronouns (Sande 2017, 2019a). For example, the human noun ‘man’ triggers a -o agreement marker on an attributive adjective (14)a, whereas the non-human noun ‘house’ triggers -a (14)b. (Superscripts mark tone, where 1 is low and 4 is high.)

⁵ The Impoverishment approach is close in spirit to Jakobson’s (1971) approach to Romanian gender. Jakobson observed that feminine and plural are marked categories in Romanian and that “[a] simultaneous signaling of two particularly specified categories is avoided; therefore, the more specified Rumanian feminine is delimited only in the less specified singular, and, vice versa, the less specified masculine only in the more specified plural” (p. 189).

- (14) a. $\eta\text{udi}^{3.1}$ $\text{kad}\underline{\text{ɔ}}^{4.2}$ b. $\text{bit}\text{ə}^{2.3}$ $\text{kad}\underline{\text{a}}^{4.2}$
 man big house big
 ‘a big/important man’ ‘a big house’⁶

Given these agreement facts, we conclude, following Sande (2017, 2019a), that Guébie has two grammatical genders: human and non-human (see the definition of grammatical gender in Corbett 1991; Kramer 2015a:70)

However, non-human nouns (both animals and inanimates) in fact trigger three different agreement patterns. There are no semantic commonalities within these three sub-classes: animals, body parts, liquids, small and big entities, etc. are found in all three classes (Sande 2019a:840). Instead, the agreement pattern depends on the phonological properties of the noun’s final vowel (Sande 2019a:845): compare (14)b, (15)ab.

- (15) a. je^{42} $\text{kad}\underline{\text{ɛ}}^{4.2}$ b. to^3 $\text{kad}\underline{\text{u}}^{4.2}$
 egg big battle big
 ‘a big egg’ ‘a big battle’

The mapping between ten possible noun-final vowels and their corresponding agreement markers is shown in Table 1. The ATR quality of the agreement vowel is dependent on the adjectival stem, as agreement markers are subject to word-level ATR harmony. The backness and rounding of the agreement vowel, though, is determined by the noun being modified.

| Final vowel of noun | Backness | Agreement vowel |
|---------------------|----------|-----------------|
| [i, ɪ, e, ɛ] | Front | ɛ/e |
| [ə, a] | Central | a/ə |
| [u, ʊ, o, ɔ] | Back | ʊ/u |

Table 1: Phonological Agreement Correlations (Sande 2019a:836).

The same pattern shown in Table 1 for adjectival gender agreement holds for gender agreement in pronouns (Sande 2017, 2019a). The human gender has the third-person singular nominative pronoun shown in (16).

- (16) ɔ^3
 3.NOM.HUM.SG
 ‘he/she’ (Sande 2019a:837)

Non-human pronouns, though, can take three different forms depending on the backness of the final vowel of the antecedent, as shown in Table 2.⁷

⁶ There are a few attested instances of speakers using [*biti*^{2.3} *kada*^{4.2}] rather than [*bitə*^{2.3} *kada*^{4.2}] to mean ‘big house.’ This vowel alternation does not apply consistently across nouns or across speakers or productions for this particular noun, and the variant in (14b) is more common. Future work will examine the cause of this variation.

⁷ Sande (2019a) shows that Guébie pronouns are D’s that take NP-complements (as in e.g., Elbourne 2001), and thus they agree via nominal concord similar to determiners in languages like French, German, etc.

| | Human | Non-Human |
|-----|----------------|--|
| 3rd | ɔ ³ | ɛ ³ , a ³ , ʊ ³ |

Table 2: 3rd Person Singular Nominative Pronouns (Sande 2019a:837).

The pattern in Table 2 holds in all pronominal paradigms, e.g., across cases (Sande 2019a:837). Third person singular accusative pronouns are shown in Table 3 for comparison; case is marked by a tone alternation only.

| | Human | Non-Human |
|-----|----------------|--|
| 3rd | ɔ ² | ɛ ² , a ² , ʊ ² |

Table 3: 3rd Person Singular Accusative Pronouns (Sande 2019a:837).

Many Kru languages show this kind of phonologically-determined gender agreement (Innes 1966; Kaye 1981, 1982; Bing 1987; Marchese 1983, 1986, 1988; Egner 1989; Sande 2017, 2019a), and Sande (2019a:840) shows that this pattern is productive in loan and nonce words in Guébie. Moreover, the form of agreement is dependent on the final vowel of the noun even if the final vowel is a suffix/clitic. For example, there is a definite marker which can surface on nouns as an enclitic /=a/.⁸ A pronoun referring to a definite-marked noun, or an adjective agreeing with a definite-marked noun, always ends in *a*, regardless of final vowel of the noun root (Sande 2019a:841-842), as shown in Table 4.

| Noun | Noun-Def | Nom Pronoun | Gloss |
|-----------------------------|--------------------------------------|----------------------------------|---------|
| ɲu ⁴ | ɲu ⁴ =a ⁴ | a ³ , *ʊ ³ | ‘water’ |
| ʝi go ^{3.1} | ʝi go ^{3.1} =a ¹ | a ³ , *ʊ ³ | ‘fire’ |
| ʝe ⁴² | ʝe ⁴ =a ² | a ³ , *ɛ ³ | ‘egg’ |

Table 4: Definite-Marked Nouns (Sande 2019a:842).

To summarize, Guébie has two grammatical genders: human and non-human. Singular human agreement markers have a set form, while singular non-human agreement markers take three different forms depending on the backness of the final vowel of the agreement controller or antecedent.⁹

3.2 Analysis of the basic gender system in Guébie

Sande (2019a) provides a morphophonological analysis of gender agreement in Guébie framed in Distributed Morphology plus a constraint-based phonology. We review her analysis briefly here to provide a baseline for the discussion of ambigeneric nouns in Section 3.3.

⁸ The definite marker is an enclitic (not a suffix) because it does not undergo ATR harmony with the stem (Sande 2019a:11).

⁹ This analysis differs from Corbett’s (1991) analysis of gender in the closely-related Kru language Godié (see also Dobrin 1995). Corbett proposes that a non-human noun is assigned gender in Godié based on the backness of its final vowel. For example, all nouns ending in a front vowel would be assigned to the Front gender and trigger Front agreement. However, in Corbett’s approach, all definite-marked nouns would have to be assigned the same gender (Central; see Table 4), which is highly unusual. Typically, definite markers are agreement targets (agree with the noun in gender), **not** agreement controllers (do not impose gender on the noun). Moreover, it is difficult to see how Corbett’s analysis would account for ambigeneric nouns since the ambigenerics do not form a natural class (see Section 3.3). We therefore set this analysis aside.

In Sande's approach, a morphosyntactic agreement operation first applies (either feature copying or Agree; the details do not matter) involving the morphosyntactic gender feature [+/-HUMAN], resulting in the post-agreement feature bundles in (17).

(17) **Human and Non-Human Pronouns (3rd sg nom): Post-Agr Feature Bundles**

a. Human Pronoun

[D]
[+HUMAN]
[-PL]
[3]
[NOM]

b. Non-human Pronoun

[D]
[-HUMAN]
[-PL]
[3]
[NOM]

The human pronoun is realized as /ɔ³/ = (18)a. For non-human pronouns, Sande (2017, 2019a) crucially posits a single underlying form – a [-ATR] vowel unspecified for other phonological features, (18)b.¹⁰

(18) **Vocabulary Items for 3rd sg nom Pronouns**

a. [D][+HUMAN]... ↔ /ɔ³/

b. [D][-HUMAN]... ↔ /V_{-atr}³/

The phonological features of (18)b are then determined via constraint interaction. Summarizing Sande's analysis, the right edge of a noun and the right edge of an element that agrees with it stand in a correspondence relation (ANCHOR-R; McCarthy & Prince 1993). Elements in a correspondence relation ideally are phonologically identical (IDENT-OO; Benua 1997, or IDENT-CORR; Rose & Walker 2004). Therefore, the right edge of an agreement element is identical to the right edge of the noun it agrees with, as long as it does not have previously specified phonological content (Sande 2019a:32-33).

Overall, given Sande (2019a), all non-human nouns trigger the same gender agreement in terms of morphosyntactic features. However, the phonological content of the agreement Vocabulary Item is determined via constraint interaction during the phonological component because the relevant vocabulary item is a highly underspecified vowel.

3.3 Ambigenics in Guébie

At first glance, the gender system in Guébie and the gender system in Romanian seem quite different. Romanian gender is based on a masculine/feminine distinction, whereas Guébie is based on a human/non-human distinction. Romanian assigns gender to some nouns arbitrarily (nouns denoting inanimate objects have masculine or feminine gender despite not being interpreted as male/female), whereas Guébie always assigns gender semantically (nouns denoting human beings have human gender, and all others have non-human gender). Finally, Guébie gender agreement is partially phonologically determined, whereas Romanian gender agreement is purely morphosyntactic. However, a closer look at plural nouns in Guébie reveals a deep similarity between the two gender systems.

In Guébie, human plural nouns trigger an *-a* agreement suffix on attributive adjectives, and the 3rd person human plural nominative pronoun has the form *wa³* (19).

¹⁰ (18)b also has tone for the sake of completeness, but it is likely that the tone actually indicates nominative case (compare Table 2 with Table 3).

- (19) a. $\eta\text{udi-}\mathfrak{a}^{3.1.2}$ $\text{kad-}\mathfrak{a}^{4.2}$ b. wa^3
 man-PL big-PL 3.PL.NOM
 ‘important men’ ‘they’

About half of the non-human plural nouns (43% in a corpus containing over 5000 nouns) show a distinct plural agreement marker: an *-i* agreement suffix on adjectives (sometimes realized as [-ɪ] due to ATR harmony) and the nominative pronoun r^3 (20).

- (20) a. $\mathfrak{b}\mathfrak{a}\text{-}\mathfrak{i}^{3.12}$ $\text{j}\mathfrak{e}\text{l-}\mathfrak{i}^{1.1}$ [$\mathfrak{b}\mathfrak{i}^{3.12}$ $\text{j}\mathfrak{e}\text{l}\mathfrak{i}^{1.1}$] b. r^3
 plate-PL red-PL 3.PL.NOM
 ‘red plates’ ‘they’

However, the other half of non-human nouns (57%) trigger the same agreement as human plural nouns: an *-a* agreement suffix on adjectives and the nominative pronoun wa^3 , (21).

- (21) a. $\text{j}\mathfrak{e}\text{-}\mathfrak{a}^{4.2}$ $\text{kad-}\mathfrak{a}^{4.2}$ b. wa^3
 egg-PL big-PL 3.PL.NOM
 ‘big eggs’ ‘they’

Therefore, Guébie has ambigeneric nouns: nouns like ‘egg’ trigger **non-human** agreement in the singular (15) and **human** agreement in the plural (21), like how ambigeneric nouns in Romanian trigger masculine agreement in the singular and feminine agreement in the plural. Similar ambigeneric patterns are also found in other Eastern Kru languages (Kaye 1981; Marchese 1986, 1988).

It is important to note that ambigeneric nouns in Guébie do not have any unique linguistic properties (they are not all animals, all fruits, all body parts, etc.), and they share no phonological or syntactic features exclusively with human nouns. There is no special interpretation triggered in the plural for ambigeneric nouns. Moreover, the ambigeneric nouns show the ambigeneric pattern consistently; across all the plural agreement paradigms in Guébie (Table 5), human and ambigeneric nouns pattern together, separately from (other) non-human nouns.

| | Human | Non-human | Ambigeneric |
|---------------------------------------|---------------------|--------------------|---------------------|
| 3 rd pl nominative pronoun | wa^3 | r^3 | wa^3 |
| 3 rd pl accusative pronoun | wa^2 | r^2 | wa^2 |
| 3 rd pl possessive pronoun | $\text{wane}^{2.3}$ | $\text{ine}^{2.3}$ | $\text{wane}^{2.3}$ |
| 3 rd pl emphatic pronoun | $\text{waba}^{3.2}$ | ɪba | $\text{waba}^{3.2}$ |
| Adjectival Agreement Suffix | -a | -ɪ | -a |

Table 5: Plural Pronouns and Plural Adjectival Agreement

The syncretism between human nouns and ambigeneric nouns in the plural is therefore the most challenging kind of ambigeneric pattern to explain (Section 1) and it is likely to be metasyncretic,¹¹ very similar to the Romanian metasyncretism in Section 2.

¹¹ Determining this for certain would require a more fine-grained analysis of Guébie (see Sande 2022 for some of the challenges therein). We assume it is a metasyncretism and continue to use Impoverishment for a number of reasons: to draw the clearest parallel with Romanian, to try to account for the most challenging possible

Overall, Guébie and Romanian both morphologically distinguish between two genders. However, they also each contain a set of nouns that systematically trigger agreement with one gender in the singular and the other gender in the plural, i.e., they both have ambigeneric nouns.

3.4 Ambigenerics in Guébie: Analysis

In this section, we develop a Distributed Morphology analysis of the ambigeneric nouns in Guébie along the lines of the analysis of Romanian in Section 2. To start, we propose Guébie has three types of *n*'s with respect to gender features, (22).

(22) **Gender Features in Guébie**

- a. Human nouns: *n* [+HUMAN]
- b. Some non-human nouns: *n* [-HUMAN]
- c. Ambigeneric: *n* (no gender features)

Human nouns are formed with *n*[+HUMAN], and some non-human nouns are formed with *n*[-HUMAN]. Both of these gender features are interpretable: [+HUMAN] nouns denote human beings, whereas [-HUMAN] nouns do not. It is common for a language to have only interpretable gender features (see e.g., Corbett 2011 for typological evidence, Kramer 2015a for morphosyntactic analyses of gender systems similar to Guébie's). Like in Kramer 2015a for Romanian, the *n* that lacks gender features, (22)c, is used to form ambigeneric nouns. We assume that ambigeneric nouns in Guébie are interpreted as non-human by semantic default, similar to how nouns lacking gender features in Algonquian languages are interpreted as the default, inanimate gender (Kramer 2015a:112).¹²

To capture the syncretism of ambigeneric with non-human nouns in the singular and human in the plural, we use two Impoverishment operations that delete gender features from certain kinds of feature bundles, in exactly the same way as the analysis of Romanian in Section 2. In the singular, the non-human feature is deleted, (23).

(23) **Guébie: Impoverishment of Non-Human in the Singular**

$$\begin{array}{ccc} [-PL] & \rightarrow & [-PL] \\ [-HUMAN] & & \end{array}$$

This ensures that non-human and ambigeneric agreement feature bundles are identical before Vocabulary Insertion, so they both must be expounded using the same Vocabulary Item. The Vocabulary Items for third-person singular nominative pronouns are in (24).

- (24) a. $D [+HUMAN], [-PL] \leftrightarrow \mathfrak{o}^3$
b. $D [-PL] \leftrightarrow V_{-atr}^3$

generalization (since metasyncretisms are more complex than single-Vocabulary-Item syncretisms), and, most importantly, to rule out certain potential Vocabulary Items (e.g., $D[+PL], [+HUM]$ – this Vocabulary Item would not match any syntactic feature bundle; see Bobaljik 2002 on Impoverishment constraining Vocabulary Items).

¹² There is also some evidence that, in Guébie, singular linguistic objects which lack gender features trigger non-human agreement. For example, when referring to a clause or situation, such as “Do you play soccer with the children?” “Yes, I do **it** often,” the non-human pronoun is used.

Non-human agreement and ambigeneric agreement will both require insertion of the phonologically and morphologically underspecified Vocabulary Item in (24)b.

In the plural, the human feature is deleted, (25).

(25) **Guébie: Impoverishment of Human in the Plural**

$$\begin{array}{ccc} [+PL] & \rightarrow & [+PL] \\ [+HUMAN] & & \end{array}$$

This ensures that human and ambigeneric agreement feature bundles are identical before Vocabulary Insertion in the plural. The Vocabulary Items for third-person plural nominative pronouns are in (26).¹³

- (26) a. D [-HUMAN][+PL] \leftrightarrow r³
b. D [+PL] \leftrightarrow wa³

Thus, the ambigeneric pattern is explained: singular non-human pronouns and singular ambigeneric pronouns are realized with the same Vocabulary Item (24)b, and plural human pronouns and plural ambigeneric pronouns are both realized with the same Vocabulary Item (26)b.¹⁴

An Impoverishment account renders ambigenerics in both Romanian and Guébie nearly identical in analysis, and it is also fully compatible with Sande's (2019a) morphophonological analysis of Guébie gender agreement laid out in Section 3.2. In the following section, we argue that this unified account of ambigeneric nouns is more successful than several alternative approaches to the same facts.

4 Alternative approaches to ambigeneric nouns

In Section 4.1, we present and then argue against syntactic approaches and lexicalist approaches to ambigeneric nouns. In Sections 4.2 and 4.3, we discuss a recent Impoverishment-based analysis of Romanian (Matushansky 2022). We first lay out the properties of Matushansky's analysis and show how our analysis can be straightforwardly modified to accommodate the additional data it introduces in Section 4.2. Then, in Section 4.3, we discuss some potential drawbacks of the alternative analysis of gender features that it introduces.¹⁵

¹³ The plural agreement markers cannot be straightforwardly analyzed as derived from an underspecified vowel whose features are determined phonologically. This is because singular non-human nouns ending in a high front vowel trigger a central-front agreement vowel (Table 1), while plural nouns that end in the high-front plural suffix trigger a high-front agreement vowel. Thus, we analyze the Vocabulary Items for the plural agreement markers as fully phonologically specified.

¹⁴ A potential alternative analysis (suggested by an anonymous reviewer) would posit a single Impoverishment operation that deletes [-HUMAN] in the context of [+PL]. However, this operation would have to be restricted to ambigeneric nouns, which are not a natural class, and it would not render ambigeneric nouns and human nouns featurally identical in the plural (since the human nouns would still have [+HUMAN], assuming [+HUMAN] is marked; see fn. 12). Thus, this approach would allow for human plural nouns and ambigeneric plural nouns to trigger different agreement markers, which is unattested in Guébie.

¹⁵ We focus on addressing formal and synchronic approaches to Romanian ambigeneric nouns for purposes of space and ease of comparison. We hope that future work will integrate the analysis here with other approaches (e.g., Corbett 1991, Maiden 2016), especially the detailed diachronic account in Loporcaro 2018.

4.1 Syntactic and lexicalist approaches

In this section, we lay out two major previous approaches to ambigeneric nouns in Romanian: (i) a syntactic approach where the head of NumP has gender features, and (ii) a lexicalist approach where nouns are pre-syntactically assigned to agreement classes. Kramer 2015a argues against each of these approaches in favor of a Distributed Morphology approach. Here we review and supplement those arguments, showing how they can be replicated in Guébie.

4.1.1 The syntactic approach to ambigeneric nouns

The syntactic approach to Romanian ambigeneric nouns is suggested in Ritter 1993 and developed in more detail in Giurgea 2008 and Croitor & Giurgea 2009. In this approach, Num (the head of NumberP) has both number features and gender features, and nouns are sorted into three lexically-specified classes: I, II, or III. A Num head with a specific gender feature selects for a noun with a specific class feature as per (27):

(27) **Selectional restrictions for Num: Romanian**

- a. Num[-PL][-FEM] selects for Class I and Class III.
- b. Num[-PL][+FEM] selects for Class II.
- c. Num[+PL][-FEM] selects for Class I.
- d. Num[+PL][+FEM] selects for Class II and Class III.

(Kramer 2015a:178, based on Croitor & Giurgea 2009:(13))

Class I is thus the set of nouns traditionally called masculine, Class II is feminine, and Class III is ambigeneric since it is selected by Num[-FEM] in the singular and Num[+FEM] in the plural.

Adapting this approach to Guébie is straightforward. In Guébie, Num would be specified as [+HUMAN] or [-HUMAN], and nouns would again be sorted into three classes: I, II and III. The selectional restrictions for Num under this approach are in (28).

(28) **Selectional restrictions for Num: Guébie**

- a. Num[-PL][-HUMAN] selects for Class I and Class III.
- b. Num[-PL][+HUMAN] selects for Class II.
- c. Num[+PL][-HUMAN] selects for Class I.
- d. Num[+PL][+HUMAN] selects for Class II and Class III.

Class I would be non-human (and non-ambigeneric) nouns, Class II would be human nouns and Class III would be ambigeneric since it is selected for by Num[-HUMAN] in the singular and Num[+HUMAN] in the plural.

This analysis captures the ambigeneric patterns, but it has some unappealing properties. First, as Kramer (2015a) notes, it seems somewhat stipulative. It essentially restates the key generalization (that ambigeneric nouns agree in a different gender in the plural) rather than deriving it, and syntactic selection does not intuitively seem like the right tool for addressing a problem that has primarily morphological effects.

Second, this approach makes an incorrect empirical prediction for coordinated nominals (as noticed by Croitor & Giurgea 2009 and Kramer 2015a:179-80 for Romanian). As a baseline, when two nominals with the same gender are coordinated in Romanian or in Guébie, the agreement marker matches that gender. This is shown for masculine and feminine nouns in Romanian in (29) and for human and non-human nouns in Guébie in (30).

(29) **Romanian**

- a. Nucul și prunul sînt uscați. **Masc + Masc = Masc**
walnut.MSG.DEF and plum.MSG.DEF are dry.MPL
'The walnut tree and the plum tree are dry.' (Farkas & Zec 1995:96)
- b. Podeaua și ușa sînt albe. **Fem + Fem = Fem**
floor.FSG.DEF and door.FSG.DEF are white.F/NPL
'The floor and the door are white.' (Farkas & Zec 1995:96)

(30) **Guébie**

- a. ŋ^wɔno^{4.4} (ɛ)ja^{3.1} ŋudi^{3.1} kɔ=a^{2.2} 6a² e⁴
woman and man be.LOC=PST there 1SG.NOM
ni=wa^{4.2} jɔku^{2.3}
see.PFV=3HUMPL.ACC PART **Human + Human = Human Pronoun**
'A man and a woman were there; I saw them.'
- b. 6ɔ^{3.1} 6ɔɔ^{2.2} ɛja^{3.1} selo^{2.3} kɔ=a^{2.2} 6a² e⁴
plate one and bucket be.LOC=PST there 1SG.NOM
ni=i^{4.2} jɔku^{2.3}
see.PFV=3NONHUMPL.ACC PART **Non-hum + Non-hum = Non-hum Pronoun**
'A plate and a bucket were there; I saw them.'

In the syntactic analysis, when an ambigeneric noun is singular, it is selected by Num[-FEM] in Romanian and Num[-HUMAN] in Guébie. The syntactic analysis therefore predicts that coordinated ambigeneric nouns should trigger masculine agreement in Romanian and non-human agreement in Guébie. Instead, the opposite occurs: coordinated ambigeneric nouns trigger feminine agreement in Romanian and human agreement in Guébie.

(31) **Romanian: Ambi + Ambi = Feminine**

- Scaunul și dulapul sînt albe.
chair.NSG.DEF and cupboard.NSG.DEF are white.F/NPL
'The chair and the cupboard are white.' (Farkas & Zec 1995:96)

(32) **Guébie: Ambi + Ambi = Human**

- boti^{4.1} ɛja^{3.1} sɛpi^{2.4} kɔ=a^{2.2} 6a² e⁴ ni=wa^{4.2} jɔku^{2.3}
bottle and cat be.LOC=PST there 1SG.NOM see.PFV=3HUMPL.ACC PART
'A bottle and a cat were there. I saw them.'

In the DM analysis, the feminine agreement in (31) and the human agreement in (32) are predicted to occur if we assume that there is a plural number feature on the agreement target (predicate adjective in Romanian, pronoun in Guébie). Since ambigeneric nouns are unspecified for gender features, (33)b -e the 'feminine' plural adjective agreement for Romanian, and (34)b *wa* the 'human' plural pronoun for Guébie are correctly predicted to be inserted.

(33) **Vocabulary Items for Plural Adjective Agr: Romanian**

- a. [-FEM],[+PL] ↔ -i
b. [+PL] ↔ -e

(34) **Vocabulary Items for Plural Pronoun Agr: Guébie**

- a. D [-HUMAN][+PL] \leftrightarrow r³
- b. D [+PL] \leftrightarrow wa³

In contrast, in the syntactic analysis, even if the agreement target has a plural feature, the prediction is incorrect because the ambigeneric nouns (or more precisely: the Num heads that select ambigeneric nouns) have specified gender features ([FEM] for Romanian nouns, [-HUMAN] for Guébie nouns). Overall, then, due to the somewhat stipulative nature of the analysis and the inability to capture coordination data, we argue that the syntactic analysis is not a promising approach to ambigeneric nouns.

4.1.2 The lexicalist analysis for ambigeneric nouns

Similar to the syntactic analysis, the lexicalist analysis relies on specified mappings between a nominal gender, a syntactic feature that determines agreement, and a specific number. However, it does not rely on syntactic selection to accomplish the mappings. We focus here on the lexicalist analysis developed in Bateman & Polinsky (2010) where gender is assigned to nouns in the presyntactic lexicon. In this approach, specific genders are then paired with particular sets of agreement markers in the context of a given number.¹⁶

Specifically, nouns are assigned to one of four genders (A, B, C, D) based on their semantic or formal properties. The gender assignment rules for singular nouns are in (35).

(35) **Gender Assignment to Singular Nouns: Lexicalist Analysis (Romanian)**

Semantic Rules¹⁷

- a. Female-ness \rightarrow A
- b. Male-ness \rightarrow B

Formal Rules

- c. End in -ă or -e \rightarrow A
- d. End in any other segment \rightarrow B

The semantic rules take precedence over the formal rules, so any non-female/male-denoting nouns ending in -ă or -e are assigned to gender A and the rest to gender B. In the plural, the semantic rules are essentially the same, but the formal rules are different, (36).

(36) **Gender Assignment to Plural Nouns: Lexicalist Analysis (Romanian)**

Semantic Rules

- a. Female-ness \rightarrow D
- b. Male-ness \rightarrow C

Formal Rules

- c. End in -i₁ \rightarrow C
- d. End in any other segment \rightarrow D

Non-female/male-denoting nouns with the plural suffix -i₁ (one of two plural -i suffixes; see fn. 24) are assigned to Class C, whereas all other plural nouns are assigned to Class D.

Agreement marking is divided into two sets: Set I (traditional masculine) and Set II (traditional feminine). The genders are matched with agreement according to the rules in (37):

¹⁶ See also Maiden 2016 for a similar approach. We do not discuss Maiden's proposals in depth here because they are based on evidence that is either unavailable (diachronic data) or not relevant (nominal inflection) for Guébie. Also, Maiden (2016) does not develop a formal analysis so it is difficult to compare it to the present approach. See also the argumentation against Maiden 2016 (and Bateman & Polinsky 2010) in Loporcaro 2018: Ch.4.

¹⁷ There are at least two additional semantic rules: abstract nouns are assigned to Class B and nouns denoting trees are assigned to Class A. We omit these for the sake of simplicity.

(37) **Agreement Rules: Lexicalist Analysis (Romanian)**

- i. A → Set II, singular
- ii. B → Set I, singular
- iii. C → Set I, plural
- iv. D → Set II, plural (Bateman & Polinsky 2010:59)

The combination of the gender assignment rules in (35) and (36) plus the agreement rules in (37) generate the patterns correctly for masculine nouns, feminine nouns, and ambigeneric nouns. For example, ambigeneric nouns do not denote males/females and do not end in *-ă* or *-e* in the singular, so they are assigned to Class B like traditional masculine nouns and agree with Set I (masculine). In the plural, though, ambigeneric nouns do not end in *-i*, so they are assigned to Class D and trigger Set II agreement (feminine).

This analysis can be extended to Guébie ambigeneric nouns. The necessary gender assignment rules and agreement rules are in (38)-(40).

(38) **Gender Assignment to Singular Nouns: Lexicalist Analysis (Guébie)**

- a. Human → A
- b. Non-human → B

(39) **Gender Assignment to Plural Nouns: Lexicalist Analysis (Guébie)**

- | <u>Semantic Rules</u> | <u>Formal Rules</u> |
|-----------------------|---------------------------|
| i. Human nouns → D | ii. End in <i>-i</i> → C |
| | iii. End in <i>-a</i> → D |

(40) **Agreement Rules: Lexicalist Analysis (Guébie)**

- i. A → Set II, singular
- ii. B → Set I, singular
- iii. C → Set I, plural
- iv. D → Set II, plural

Gender assignment is semantic in the singular: human nouns are assigned to Class A and take Set II agreement, and non-human nouns are assigned to Class B and take Set I agreement. In the plural, human nouns are assigned to Class D and trigger Set II agreement (the same as in the singular). However, the remaining nouns (all of which are non-human) are assigned to a class based on their form: nouns that take the plural ending *-i* (see (20)) are assigned to Set I whereas those that end in *-a* (see (21)) are assigned to Set II. Ambigeneric nouns denote non-human entities and take the plural marker *-a*; therefore, they will be assigned to Class B in the singular (triggering Set I agreement) and Class D in the plural (triggering Set II agreement), resulting in the ambigeneric pattern.¹⁸

While the analysis works in both Romanian and Guébie, it has several drawbacks. First, across both languages, the set of nouns assigned to each gender is coincidentally nearly identical across numbers. Specifically, the same set of nouns largely comprises Class A in the singular and Class D in the plural (human gender in Guébie, feminine gender in Romanian) and Class B in the singular / Class C in the plural (non-human in Guébie, masculine in Romanian). This is partially ensured through the semantic gender assignment rules, which apply in the same way to singular and plural nouns. However, this duplicates key semantic generalizations across numbers (male → masculine, human → human gender, etc.) that should only be stated once in the grammar. Moreover, in Romanian, it does not explain why nouns that are assigned to Class

¹⁸ It is straightforward for the Distributed Morphology analysis argued for in this paper to capture plural marking in Guébie; see (41).

A formally (i.e., those that end in *-ă* or *-e* in the singular), all have the same class in the plural (Class D).

Bateman & Polinsky (2010:76) acknowledge that the lexicalist analysis does not explain the “stability of the correspondences” of nouns across classes, noting that it will be a task for future work. However, in the present analysis, the same set of nouns is expected to be, for example, feminine/human in the singular and in the plural because feminine/human nouns are always formed by a root combining with a *n* with a feminine/human feature. The DM approach thus predicts these correspondences, i.e., that most nouns in these languages “keep” the same gender across numbers.

The lexicalist analysis also overgenerates. In Romanian, recall that female-denoting nouns are assigned to Class A in the singular, and so are nouns that end in *-ă* or *-e*. However, nearly all of the female-denoting nouns in Romanian also end in *-ă* or *-e*, and this is unexpected in the lexicalist analysis. Since there is no connection between the form of female-denoting nouns and their class membership, they should be able to end in any segment that is licit word-finally in the language. Similarly, since human nouns in Guébie are assigned to Class D in the plural based on their semantics, nothing prevents them from ending in any licit final segment in the language. However, they all end in *-a* (see e.g., (19)) and this is again not predicted by the lexicalist approach.

In a DM analysis, these correlations between form and meaning are captured. In Romanian, both female-denoting nouns and nouns that are grammatically feminine have the feature [+FEM], and this feature is realized as *-ă* or *-e* (or conditions the realization of Num as *-ă* or *-e*). In Guébie, only non-human nouns end in *-i* in the plural and recall that only non-human (and non-ambigeneric) nouns have a [-HUMAN] feature (Section 3.1). Given this, the fact that human plural nouns always end in *-a* is easily captured with the following Vocabulary Items:

(41) **Guébie Plural Suffixes**

- a. Num[+PL] \leftrightarrow *-i* / [-HUMAN]
- b. Num[+PL] \leftrightarrow *-a*

Overall, then, the lexicalist analysis cannot capture any generalizations that relate a noun with a semantically assigned gender to a particular formal marker, while the DM analysis does so easily.

Finally, like the syntactic analysis in Section 4.1.1, the lexicalist analysis also struggles to explain agreement with coordinated ambigeneric nouns. When two singular ambigeneric nouns are conjoined in either Romanian or Guébie, they have the same class (B: masculine/non-human) and should trigger agreement using Set I (masculine/non-human). However, as we have seen they in fact trigger agreement using Set II (feminine/human) in both Romanian in (31) and Guébie in (32).

Overall, then, both the syntactic and the lexicalist analyses face conceptual and empirical challenges in accounting for Romanian and Guébie ambigeneric nouns. We have argued that the Distributed Morphology analysis developed in this paper not only avoids these pitfalls, but also captures the relevant generalizations better. However, the DM analysis faces certain issues once a broader range of data from Romanian adjectives is considered, and this is the focus of the next section.

4.2 Matushansky 2022: A different DM approach

Matushansky (2022) (henceforth: M22) adopts an Impoverishment analysis of Romanian ambigeneric nouns similar to the analysis developed in Kramer 2015ab; however, M22 modifies and extends the analysis to explain certain syncretisms in adjectival agreement.¹⁹ In the remainder of section 4.2, we lay out M22's analysis (Section 4.2.1) and show how the modifications it makes are not necessary in order to account for the data (Section 4.2.2). We then compare our approach to M22 in Section 4.3, and suggest that the modifications introduced in M22 have some potentially negative consequences.

4.2.1 Matushansky 2022: Fundamentals

The typical Romanian adjective makes four agreement distinctions: masculine/ambigeneric singular, feminine singular, masculine plural, and feminine/ambigeneric plural. The four exponents that most often correspond to these four distinctions are in Table 6.

| | Masculine | Ambigeneric | Feminine |
|----------|-----------|-------------|----------|
| Singular | -Ø/-u | | -ă |
| Plural | -i | -e | |

Table 6: Typical Romanian Adjectival Inflection Paradigm.

Recall from Section 2 that we account for Table 6 with the Vocabulary Items in (42).

(42) Vocabulary Items for Adjectival Agreement

- a. [+FEM] ↔ -ă Feminine singular
- b. [] ↔ -Ø/-u Masculine/ambigeneric singular
- c. [-FEM], [+PL] ↔ -i Masculine plural
- d. [+PL] ↔ -e Feminine/ambigeneric plural

In (42), -ă is feminine singular, -Ø/-u is the default (used for masculine and ambigeneric because masculine gender is Impoverished in the singular, (10)), -i is masculine plural and -e is default plural (used for feminine and ambigeneric because feminine gender is Impoverished in the plural, (12)).

M22 observes that several kinds of adjectives appear with only a subset of these Vocabulary Items, i.e., they display syncretisms. We focus on the three syncretic adjectival paradigms laid out in Tables 7, 8 and 9 (all data in these tables from Matushansky 2022, p. 311; see also fn. 28 on two additional patterns).

¹⁹ We focus here on adjectival inflection, setting aside inflection on nouns, demonstratives, definite articles, etc. We restrict our attention to adjectives because they are the main kind of evidence against Kramer 2015ab presented in M22, and because adjectival inflection for gender/number is attested in both Romanian and Guébie, but we hope to extend the analysis to additional syntactic categories in future work. See also Parfene & Ulfsbjorninn 2023 for a new approach to nominal inflection in Romanian that directly builds on Kramer 2015a.

| | Masculine | Ambigeneric | Feminine |
|----------|-----------|-------------|----------|
| Singular | ate-u | | |
| Plural | ate-i | ate-e | |

Table 7: Feminine Singular is *-e*: *ateu* ‘atheist’.

| | Masculine | Ambigeneric | Feminine |
|----------|-----------|-------------|----------|
| Singular | mar-e | | |
| Plural | mar-i | | |

Table 8: No Gender Distinctions: *mare* ‘big’.

| | Masculine | Ambigeneric | Feminine |
|----------|-----------|-------------|----------|
| Singular | auri-u | | auri-e |
| Plural | auri-i | | |

Table 9: No Gender Distinctions in the Plural & Fem Sg is *-e*: *auriu* ‘golden-yellow’.

Tables 7 through 9 are problematic for our analysis in two ways. First, the *-e* suffix ((42)d) does not act like a default plural marker in this data: it appears in singular feminine forms in Tables 7 and 9 in the singular for all genders in Table 8. Second, the *-i* suffix ((42)c) does not act like a masculine plural: it is used in the plural for all genders in Tables 8 and 9. To account for these generalizations, M22 proposes an alternative set of Vocabulary Items where *-e* is the elsewhere suffix and *-i* is the default plural suffix, (43).

(43) Vocabulary Items for Adjectival Agreement (M22:313)²⁰

- | | |
|-----------------------|-------------------|
| a. [-PL], [+FEM] ↔ -ă | Feminine singular |
| b. [-PL] ↔ -Ø/-u | Default singular |
| c. [+PL] ↔ -i | Default plural |
| d. otherwise -e | Default |

This allows for the data in Tables 7-9 to be generated together with a few Impoverishment rules. Specifically, when *-i* appears as a default plural across genders (Tables 8 and 9), an Impoverishment rule has removed gender features in the plural, (44). Note that M22 uses $[\gamma]$ to represent all gender features and $[\#]$ for all number features.²¹

(44) Impoverishment of Gender in the Plural for Tables 8 and 9

$[\gamma] \rightarrow \emptyset / _ [+PL]; \sqrt{\text{AURI-}}, \sqrt{\text{MAR-}} \dots$

The resulting feature bundle consisting of just number features will be realized as (43)c, the plural default suffix *-i*.

As for the distribution of the *-e* suffix, when it is used for feminine singular (Tables 7 and 9), both gender and number features have been Impoverished, (45).

²⁰ Modified slightly to be consistent with the number features used here.

²¹ It is likely that these symbols represent nodes in a feature hierarchy, but M22 does not claim this explicitly.

(45) **Impoverishment of Fem Gender and and Sg Number for Tables 7 and 9**

[γ] → ∅ / __ [+FEM][-PL]; √AURI-, √ATE-...
[#]

Similarly, when *-e* is used across genders in the singular (Table 8), gender and number have been Impoverished in the singular, (46).

(46) **Impoverishment of Gender and Sg Number for Table 8**

[γ] → ∅ / __ [-PL]; √MAR-...
[#]

Overall, whenever an adjectival inflection marker has no phi features (i.e., after (45) and (46) apply), it will be realized as the suffix *-e*, (43)d.

The Vocabulary Items in (43) have an additional important consequence. Specifically, in (43)c, *-i* is associated only with a [+PL] feature, and this renders an Impoverishment analysis of the feminine/ambigeneric syncretism no longer viable. If gender is Impoverished in the feminine plural (see (12)), and the Vocabulary Item (43)c is available, then it is predicted that feminine/ambigeneric adjectives will always surface with the suffix *-i*, (43)c (and not the suffix *-e* (43)d as attested).

To address this, M22 proposes that a feminine or ambigeneric plural adjective must undergo Impoverishment for both gender and number. This will correctly predict that the elsewhere/default item *-e* will be inserted for feminine/ambigeneric adjectives. However, this Impoverishment operation must be restricted to feminine and ambigeneric adjectives. If ambigeneric “gender” is a lack of gender features, as in our analysis, this is impossible to accomplish: the [+FEM] feature only picks out feminine adjectives, and [+/-FEM] would incorrectly include masculine adjectives.

Therefore, M22 adopts a different approach to gender features in Romanian, (47).

(47) **Gender Features for Romanian: M22**

- a. Feminine: *n* [+FEM][-MASC]
- b. Masculine: *n* [-FEM][+MASC]
- c. Ambigeneric: *n* [-FEM][-MASC]

In this approach, there are two binary gender features: [+/-FEM] and [+/-MASC]. Nouns are specified for both features, and ambigenics are specified negatively for both. M22 then proposes the Impoverishment rule (48) for feminine and ambigeneric adjectives in the plural:

(48) **Impoverishment of Feminine/Ambigeneric Gender and Plural Number**

[γ] → ∅ / __ [-MASC][+PL]
[#]

This rule removes the gender and number features from a feature bundle in the context of [-MASC] and plural number. Therefore, any feminine plural or ambigeneric plural adjectives will be realized with the same elsewhere Vocabulary Item: the *-e* suffix. This captures the

fundamental feminine/ambigeneric syncretism, while also accounting for the data in Tables 7-9.²²

As far as we can determine, M22 does not discuss the masculine/ambigeneric syncretism in the singular. However, because the masculine/ambigeneric syncretism is a metasyncretism, it needs to be captured with Impoverishment. In M22's approach, this could take the form of (49):

(49) **Impoverishment of Masculine in the Singular**

$[\gamma] \rightarrow \emptyset / __ [-FEM][-PL]$

This rule causes masculine and ambigeneric singular agreement targets to be featurally identical (reduced to $[-PL]$) and thus they must be realized using the same Vocabulary Item across agreement targets (e.g., (43)b for adjectival inflection). With this addition, the M22 analysis now treats the metasyncretism in both numbers as well as the syncretism patterns in adjectival inflection.

4.2.2 Explaining syncretic adjectival agreement with a single gender feature

In order to capture the feminine/ambigeneric plural syncretism described in Section 2, M22 posits two gender features in Romanian (see (47)). While the key empirical generalizations are still fresh in the reader's mind, we show here that our analysis can be extended to address Tables 7 through 9 without needing two gender features. Then, in Section 4.3, we suggest that adding a second gender feature has some potentially undesirable downstream effects.

First, the Vocabulary Items proposed in Section 2 can be retooled so that *-e* is the elsewhere, (50).²³

(50) **Vocabulary Items for Adjectival Inflection**

- | | | |
|----|--|--------------------------------|
| a. | $[+FEM][-PL] \leftrightarrow -\check{a}$ | Feminine singular |
| b. | $[-PL] \leftrightarrow -\emptyset/-u$ | Masculine/ambigeneric singular |
| c. | $[-FEM], [+PL] \leftrightarrow -i$ | Masculine plural |
| d. | elsewhere $\leftrightarrow -e$ | Feminine/ambigeneric plural |

Combined with the Impoverishment operations in (45) and (46), this modification renders our analysis and M22 equal in empirical coverage with respect to the distribution of *-e* in Tables 7 to 9. No change to the gender features is necessary.

Second, the plural suffix *-i* ((50)c) can be modified to cover the data in Tables 8 and 9.²⁴

²² This approach also explains the coordination facts from Section 4.1. A predicate adjective that agrees with coordinated ambigeneric nouns will have a plural feature and a $[-MASC]$ feature. Thus, it will be subject to the Impoverishment rule in (48) and the elsewhere *-e* Vocabulary Item will be (correctly) inserted.

²³ We also added $[-PL]$ to the masculine singular Vocabulary Item in order to differentiate it from the elsewhere item. This then requires adding $[-PL]$ to the feminine singular Vocabulary Item in order to avoid the use of a feature hierarchy to ensure the feminine is inserted in the singular (see Section 2). Neither of these moves have any negative consequences that we can see.

²⁴ Many thanks to an anonymous reviewer for this suggestion and a second anonymous reviewer for relevant discussion. An alternative would be to posit two Vocabulary Items: one plural *-i* inserted in masculine plural contexts and another plural *-i* inserted in the context of the relevant roots. An analysis along these lines is adopted in Bateman & Polinsky 2010, and they observe in support of this approach that the two plural *-i*'s have distinct diachronic origins. However, it is unclear to us whether there is sufficient evidence for the learner that there are (still) two different Vocabulary Items for plural *-i* in Romanian today. For this reason, and to avoid positing two

$$(51) \quad [+PL] \leftrightarrow -i \left/ \begin{array}{l} [-FEM] \\ \sqrt{\text{MAR-}}, \sqrt{\text{AURI-}} \dots \end{array} \right\}$$

This suffix still expones plural number, but it now is inserted in a context that includes either the morphosyntactic feature [-FEM] or the roots $\sqrt{\text{MAR-}}$, $\sqrt{\text{AURI-}}$, etc. In other words, it will be inserted in masculine plural contexts and for all genders in plural contexts that include the roots $\sqrt{\text{MAR}}$, $\sqrt{\text{AURI}}$, etc. This derives the data in Tables 8 to 9, again with no changes to the gender feature inventory.²⁵

There are no adverse empirical consequences that we can see to this modification. Moreover, it is common in DM for Vocabulary Insertion to be conditioned by morphosyntactic features and by root identity (see e.g., Gouskova & Bobaljik 2020). It is less common for there to be disjunctive contextual conditions (although see Embick 2016 for one example), but it is important to note that contextual conditioning is independently restricted by locality in DM. In general, the features/roots that condition the insertion of one Vocabulary Item over another (i.e., allomorphy) must be local to the feature bundle that they are exponing, with the precise definition of “local” in this case being a matter of current research (again, see Gouskova & Bobaljik 2020 for an overview). Therefore, it is not the case that **any** two features/roots can disjunctively condition insertion: the conditioning features/roots **both** must be local to the morpheme that the Vocabulary Item is exponing. For the Romanian Vocabulary Item in (51), both conditions are very local: the adjectival gender agreement feature is probably in the same feature bundle as the adjectival plural agreement feature, and the root is adjacent to the plural agreement marker (e.g., *mar-i* ‘big-PL’).

Additionally, the same exact pattern of disjunctive conditioning is attested in other languages: there are other instances of a single plural suffix being used in the context of **either** a particular gender feature **or** specific roots. For example, in Modern Hebrew, the plural suffix *-im* is used for masculine nouns in general and for a few specific roots exceptionally (see e.g., Schwarzwald 1991; Ritter 1993; Aronoff 1994; Bat-El 1997, 2009; Alexiadou 2004; Kihm 2005).²⁶ In (52), the noun ‘chalk’ is masculine and takes the typical masculine plural suffix *-im*, but in (53) the noun ‘brick’ is feminine and takes this ‘masculine’ plural suffix as well.²⁷

| | | | |
|------|--------------------------------|------------------------------------|--|
| (52) | a. gir chalk.MSG ‘chalk’ | b. gir-im chalk-MPL ‘chalks’ | Modern Hebrew (Schwarzwald 1991:580) |
|------|--------------------------------|------------------------------------|--|

identical Vocabulary Items with the same pairing of feature ([+PL]) and morphophonology (-i) if possible, we opt for a single Vocabulary Item for *-i* with disjunctive contextual conditions.

²⁵ An alternative approach could posit a diacritic [I] on roots like $\sqrt{\text{MAR}}$ and on the [-FEM] feature; there would then be a single Vocabulary Item *-i* associated with a [+PL] feature and contextually conditioned by [I] (cf. Trommer 2016 on ‘parasitic features’). We leave open whether this approach is preferable to the disjunctive contextual conditioning approach adopted in the main text; we suspect it will depend on how Romanian declension class is analyzed.

²⁶ Another Hebrew plural suffix *-ot* has a similar distribution: it is used for feminine nouns in general and exceptionally for a few specific roots.

²⁷ Nouns that take exceptional plural markers in Hebrew still trigger agreement in the gender they have in the singular. In other words, ‘brick’ in (53) is still a feminine noun despite having a ‘masculine’ plural marker; these nouns are not ambigeneric (see Ritter 1993; Bat-El 1997).

- (53) a. leven-a b. leven-im
 brick-FSG brick-MPL
 ‘brick’ ‘bricks’ (Schwarzwald 1991:580)

Under the approach here, *-im* would be analyzed as the following Vocabulary Item, very similar to (51):

- (54) $[+PL] \leftrightarrow -im / \left\{ \begin{array}{l} [-FEM] \\ \sqrt{LEVEN}, \dots \end{array} \right\}$

All of the previous research on Hebrew plural marking has treated the plural suffix *-im* as subject to disjunctive contextual conditioning, taking roughly the same approach as (54) with variation in framework-specific details (e.g., Aronoff 1994:75-77 uses two disjunctive lexical rules: one that adds *-im* to all masculine plural nouns and another that adds *-im* to feminine plural nouns with a particular diacritic; see fn. 25). Therefore, analyzing the plural *-i* suffix in Romanian as a single Vocabulary Item (51) is in line with how plural suffixes with the same distribution in other languages have been treated in previous work.

Overall, then, all that needs to be done to capture Tables 7 to 9 is (i) treat the suffix *-e* as an elsewhere Vocabulary Item and add the Impoverishment rules (45), (46), and (ii) modify the contextual conditions for the plural suffix *-i*, (51). Step (i) is also necessary under M22’s analysis, so the difference between our analysis and M22 reduces to either (i) adding a condition on a Vocabulary Item (our analysis) or (ii) enriching the inventory of gender features and adding another Impoverishment rule, (44) (M22).²⁸ The relative implications of adding another Impoverishment rule versus adding a disjunctive condition do not seem easy to distinguish (to us), but enriching the inventory of gender features has some potentially negative consequences that we discuss in the next section.

4.3 Matushansky 2022: Discussion

In this section, we explore what follows from the two-gender-feature inventory in M22, (55).

(55) Gender Features for Romanian: M22

- a. Feminine: $n [+FEM][-MASC]$
- b. Masculine: $n [-FEM][+MASC]$
- c. Ambigeneric: $n [-FEM][-MASC]$

(55) is essential for M22 to capture the feminine/ambigeneric syncretism in the plural, but we suggest in this section that adopting (55) has several non-ideal consequences: arguably more complexity, overgeneration of types of *n*’s, and a lack of clarity about the semantics of gender

²⁸ M22 discusses the syncretic paradigms of two additional adjectives: *tenace* ‘tenacious’ and *vechi* ‘old.’ Both can be accounted for in the modified version of our analysis. The plural forms of *tenace* are those of a typical adjective, but the singular forms all take the suffix *-e*. This is explained if *tenace* is subject to the Impoverishment operation in (46), just like *mare* ‘big.’ As for *vechi* ‘old,’ its plural forms are identical to those of *mare* (i.e., *-i* is used for both genders) and thus it can be accounted for in the same way (specifically, by adding the root \sqrt{VECHI} to the contextual restrictions of the Vocabulary Item in (51)). In the singular, the feminine is *veche*, so this root is subject to the Impoverishment operation (45) like *ateu* ‘atheist.’ The masculine singular is *vechi*, which at first seems puzzling since *-i* is never used for masculine singular. However, we follow M22 and Dobrovie-Sorin & Giurgea (2006) in treating the final *-i* as part of the stem of *vechi* and the masculine singular ending as (typical) $-\emptyset$.

features (Section 4.3.1).²⁹ We then show that it is also difficult to extend to Guébie (Section 4.3.2).

4.3.1 The nature of gender features in Romanian

Assuming that M22 and our analysis have the same empirical coverage with respect to adjectival agreement, it seems to us that M22 is *mutatis mutandis* more complex, although this depends on how complexity is measured. If complexity is measured in terms of the number of features in the presyntactic lexicon, there are more gender features in M22 than in Kramer 2015ab (as M22:315 acknowledges). Specifically, M22 posits two gender features (FEM, MASC) whereas Kramer 2015ab and the present analysis have only one (FEM).³⁰

Moreover, the larger number of gender features causes the Impoverishment operations in M22 to be more complex along several dimensions. Compare the operations from Section 2 in (56) with their equivalents in M22 in (57). We have reformatted our Impoverishment operations to be similar to those in M22 for ease of comparison.

(56) Current Analysis: Impoverishment Operations

- a. $[+FEM] \rightarrow \emptyset / __ [+PL]$ b. $[-FEM] \rightarrow \emptyset / __ [-PL]$

(57) M22: Impoverishment Operations

- a. $[\gamma] \rightarrow \emptyset / __ [-MASC][+PL]$ b. $[\gamma] \rightarrow \emptyset / __ [-PL]$
 [#]

The structural descriptions of the Impoverishment operations in (57) are arguably more complex than those in (56) in three ways: (i) in (57)a, number features must be included, unlike in (56)a (see Section 4.2.1), (ii) in (57)a, the contextual restriction includes one more feature than (56)a,³¹

²⁹ We do not explore the predictions of our analysis and M22 for default gender agreement because both face similar problems (*pace* M22:315). In Romanian, masculine is the default for all nouns in the singular (see e.g., Kramer 2015a:172, M22:315). However, in the plural, feminine is the default for inanimate nouns and masculine is the default for animate nouns (see e.g., Farkas 1990; Chitoran 1992; Farkas & Zec 1995, among others). Our analysis incorrectly predicts that plural nouns should all trigger default feminine gender agreement, and M22 incorrectly predicts that they all should trigger default masculine. We leave open how our analysis and M22's should be revised, but see Kramer 2015a (pp. 141-146) on unexpected gender defaults in languages with a neuter gender.

³⁰ One could argue that the single-gender feature analysis that we adopt is more complex because it makes use of three values for the gender feature: $+/-/\emptyset$. However, to be clear, we assume that some *n*'s lack gender features entirely, rather than having a gender feature with a $[\emptyset]$ value. Because every syntactic feature bundle cannot be fully specified for every syntactic/semantic feature, it seems reasonable to us to posit that some *n*'s lack gender features. The explanatory burden then falls on how roots are matched with types of *n*'s (see Kramer 2015a on licensing conditions) and how agreement targets are realized when they agree with nominals that lack gender features (see Section 2 for Romanian and Section 3 for Guébie).

³¹ In an attempt at simplification, the Impoverishment rules in M22 could be recast as (i):

- (i) a. $[+PL] \rightarrow \emptyset$ b. $[-PL] \rightarrow [-PL]$
 $[-MASC]$ $[-FEM]$

This would effectively generate the metasyncretism, but it is not sufficiently constrained. For example, after (i)a deletes $[-MASC]$, a feminine bundle will still have a $[+FEM]$ feature and an ambigeneric feature bundle will still have a $[-FEM]$ feature. Therefore, nothing would rule out a potential plural agreement paradigm that draws a three-way morphological distinction between genders (feminine $[+FEM]$, ambigeneric $[-FEM]$, and masculine $[+MASC][+FEM]$) or a plural agreement marker that groups together ambigeneric and masculine nouns (feminine $[+FEM]$, masculine/ambigeneric $[-FEM]$). However, neither of these situations are attested: Romanian never distinguishes between three genders morphologically (see e.g., Dobrovie-Sorin & Giurgea 2013:8-9) and the

and (iii) in both rules, an entire gender node (containing multiple gender features) must be deleted instead of a single feature. M22's analysis also includes one more Impoverishment rule than ours ((44)), although the same facts are covered in our analysis by adding a disjunctive condition on contextual insertion, and (as noted in Section 4.2.2) it is not clear to us whether an additional rule or disjunctive contextual conditions should be considered more complex.³² However, to be clear, none of the ways in which M22's analysis is more complex are inherent drawbacks of the analysis, and assessing complexity is always a judgment call to some degree. Nevertheless, in the context of comparing these two analyses with the same empirical coverage for adjectival agreement, the fact that M22 is potentially more complex in several specific ways suggests that an analysis with a single gender feature is preferable.

Setting aside complexity now, another consequence of the gender inventory in (55) is that it overgenerates a specific combination of gender features. Because there are two gender features (MASC, FEM) on each *n*, and each gender feature can be valued [+] or [-], we expect four types of *n*'s. However, only three types are attested, as shown in (58):

(58) **Gender Features for Romanian: M22**

- a. Feminine: *n* [+FEM][-MASC]
- b. Masculine: *n* [-FEM][+MASC]
- c. Ambigeneric: *n* [-FEM][-MASC]
- d. Unattested: *n* [+FEM][+MASC]

What rules out (58)d, a *n* that is valued [+] for both the feminine and the masculine feature? This problem is not unique to M22; it arises for any binary gender feature analysis with both [FEM] and [MASC] features. However, to the best of our knowledge, there is no clear explanation for this gap in the previous literature (see e.g., Hamann 2010; Nevins 2011; Opitz & Pechmann 2016). One could argue that a single noun with both [+MASC] and [+FEM] features is semantically “incoherent” as both male and female (cf. Harbour 2007 on the impossible combination of number features [+SINGULAR][+AUGMENTED]). However, even setting aside the existence of singular nouns that refer to mixed-social-gender groups of humans, there are many Romanian nouns with a [+MASC] or [+FEM] feature that are not related to social gender identity in the first place (e.g., *trandafir* ‘rose (masc.),’ *casă* ‘house (fem.),’ (1)). So, it is unclear why a *n* with both [+MASC][+FEM] would be semantically incoherent since these features do not necessarily imply female or male social gender identity.

This leads us to the final consequence of (55): a lack of clarity on the connection between the gender features on *n* and their semantic interpretation. Much recent work on gender has focused on how gender features are interpreted (see e.g., Percus 2011; Kramer 2015a; Kučerová 2018; Adamson 2021, among others).³³ As mentioned in Section 2, Kramer (2015a) develops a semantically-grounded analysis of Romanian gender where the gender feature can be either

feminine/ambigeneric plural syncretism occurs uniformly across paradigms (see Section 2). Therefore, in M22's approach, (i)a must state that all gender features are deleted, and similarly for (ib).

³² Our analysis and M22 also have the same number of Vocabulary Items (four).

³³ It may seem like grammatical gender is at best loosely connected to semantics, in part because many well-studied languages contain large numbers of nouns where gender is not assigned semantically. However, a major discovery of the typological literature on grammatical gender is that, in every grammatical gender system, at least some of the nouns are assigned gender based on their semantic interpretation (sometimes called the “Semantic Core” generalization; see Corbett 1991, Kramer 2020 and many sources cited therein). So, semantic interpretation appears to be an essential component of grammatical gender as a linguistic phenomenon

semantically interpretable (*i*) or semantically uninterpretable (*u*), leading to the following kinds of *n*'s.

(59) **Types of *n* (Romanian): Kramer 2015a**

- a. *n i* [+FEM]
- b. *n i* [-FEM]
- c. *n*
- d. *n u* [-FEM]
- e. *n u* [+FEM]

Roughly speaking, (59)a is used to form nominals interpreted as having social female gender identity or (if denoting an animal) female biological sex, and (59)b the same for male. (59)c are used to form nouns that do not convey any information about social gender identity (for humans) or biological sex (for animals); (59)d is used for masculine nouns like *trandafir* 'rose' and (59)e for feminine nouns like *casă* 'house.' (59)c is for ambigeneric nouns, which are (correctly) predicted not to trigger interpretations of female-ness or male-ness. The interested reader is referred to Kramer 2015a for the details of gender assignment, the licensing conditions between roots and *n*'s in Romanian, and discussion of the interpretation of the gender features in context.

For current purposes, though, it suffices to observe that the analysis of Romanian in Section 2 is fully compatible with (59). The Impoverishment rules in Section 2 work given the inventory of *n*'s in (59) because the feature [+FEM] or [-FEM] looks the same at PF whether or not it is semantically interpretable. (59) also allows for a precise statement of how the gender system of Romanian seems simultaneously to have two and three genders: it has the syntactic *n* inventory of a typical three-gender language (under Kramer 2015a), but Impoverishment operations render it identical to a two-gender language by the time of morphological exponence (cf. Farkas & Zec 1995).

Returning now to M22, if it is assumed that [FEM] and [MASC] each come in interpretable and uninterpretable versions (in addition to +/- values), then at least 16 different kinds of *n* can be generated (*n i* [+FEM] *u* [-MASC], *n i* [-MASC], *i* [+FEM], etc.).³⁴ This is a significant complication of the gender system, resulting in more than three times as many *n*'s as the present analysis. It also generates many kinds of *n*'s that are likely unattested (e.g., *n* with *u* [+MASC] and *u* [+FEM] = inanimate masculine and feminine at the same time) and many *n*'s that have redundant features (e.g., *i* [+MASC] and *i* [-FEM] = interpreted semantically as male twice). To the best of our knowledge, it has not yet been determined whether there are restrictions on the interpretability of gender features (or combinations of gender features) that would appropriately limit the number of *n*'s in two-feature gender systems like M22. In the absence of such work, we submit that it is a benefit of our analysis that it combines easily with an account of the semantics of gender features in Romanian, while it is currently unclear how M22 would do so without overgeneration.

Overall, then, we have shown that M22 and our analysis fare equally well with respect to Romanian adjectival agreement. However, we have suggested here that M22 is more complex and it predicts the existence of an unattested kind of *n*. It also remains to be seen how it would be combined with a particular approach to the interpretation of gender features.

³⁴ If it is possible for *n* to have a single gender feature (or lack gender features altogether), then 25 different kinds of *n* are generated.

4.3.2 Gender features in Guébie

So far, we have focused on Romanian data to compare our analysis to M22. However, in this section, we return to Guébie and explore the consequences of M22 when it is extended to ambigeneric nouns in this language.

Recall that M22 proposes that the Romanian gender feature inventory includes two features: [+/-MASC] and [+/-FEM], (55). In this approach, the ambigeneric nouns are valued as [-] for both gender features, rather than lacking gender features entirely. An analysis of Guébie along the same lines is in (60); [G] stands for an unidentified additional gender feature.

- (60) a. $n[+HUMAN][-G]$ Human nouns
b. $n[-HUMAN][+G]$ Non-human nouns
c. $n[-HUMAN][-G]$ Ambigeneric nouns

Impoverishment operations would eliminate the [G] feature from non-human nouns and ambigeneric nouns in the singular, and the [HUMAN] feature from human nouns and ambigeneric nouns in the plural.

Even though the analysis works mechanically, it is difficult to justify. In order to have the ambigeneric nouns specified negatively for two features, there must be a semantically-unmotivated second gender feature [G].³⁵ This feature has no empirical basis: it must be a feature that is shared across the ambigeneric nouns and the human nouns, but there is no such linguistic property independently attested. The [G] feature is not animacy because animate nouns in Guébie can be human, non-human or ambigeneric. Moreover, [G] is likely not [NON-HUMAN], a kind of counterpart to the feature [HUMAN] (like [FEM] is the counterpart to [MASC] in M22). Under a [NON-HUMAN] approach, ambigeneric nouns would have to be specified as [-NON-HUMAN] in order to form a natural class with human nouns, (61).

- (61) a. $n[+HUMAN][-NON-HUMAN]$ Human nouns
b. $n[-HUMAN][+NON-HUMAN]$ Non-human noun
c. $n[-HUMAN][-NON-HUMAN]$ Ambigeneric nouns

However, if ambigeneric nouns were specified as [-NON-HUMAN], there would be a semantic conflict between their gender features: they would be simultaneously specified as non-human ([-HUMAN] in (61)c) and human ([-NON-HUMAN] in (61)c).³⁶

Overall, the Guébie gender system can be successfully analyzed using a single semantically-motivated gender feature (Section 3), so (60) requires an additional, semantically-

³⁵ Positing an unmotivated feature like [G] might seem as stipulative as claiming that ambigeneric *n*'s lack [-HUMAN]. However, it is independently necessary in natural language for (some) *n*'s to lack gender features – both in languages that lack grammatical gender entirely and in languages that have grammatical gender (see Kramer 2015a).

³⁶ An anonymous reviewer points out that there is no semantic conflict if we adopt a Jakobsonian (1932) approach to binary features. From this perspective the [-] value would be interpreted as unspecified for the feature attribute (e.g., [-HUMAN] = either human or non-human) rather than as the negation of the attribute ([-HUMAN] = not human). However, in our interpretation of Jakobson's claims, he was discussing how particular **forms** of words are interpreted in particular contexts, whereas the point here is about the interpretation of abstract features on *n*'s. In term of the features on Vocabulary Items (= the form of words in DM), our analysis of Guébie is in fact Jakobsonian in that the Vocabulary Item unspecified for features is used in contexts compatible with either gender (see Bresnan 2001 on understanding Jakobson's claim in terms of forms of words).

problematic gender feature without empirical motivation.³⁷ Therefore, we conclude that ambigeneric nouns in Guébie lack gender features, in contrast to M22’s analysis of ambigeneric nouns in Romanian.

4.3.3 Interim summary

The present analysis and the analysis in M22 cover the same empirical ground and are constructed from the same raw materials: Impoverishment, Vocabulary Items, and an inventory of gender features on *n*. However, we suggest that the (modified version of the) present analysis seems more promising: it is arguably simpler, it does not overgenerate, and it allows for ambigeneric nouns in Romanian and Guébie to straightforwardly be analyzed in the same way (lacking gender features).³⁸

5 Conclusion

This paper has developed a unified analysis of ambigeneric nouns in Romanian and Guébie. In both languages, ambigeneric nouns lack gender features, and Impoverishment operations lead to the ambigeneric agreement pattern. We have argued that this approach is more successful than some alternative approaches including a syntactic analysis with gender features on Num (Giurgea 2008) and a lexicalist analysis with gender assigned in the lexicon (Bateman & Polinsky 2010). We also compared our analysis to another Impoverishment analysis that uses a different inventory of gender features (Matushansky 2022), pointing out a few potentially negative consequences of this approach. As we observed in Section 1, ambigeneric nouns are not a monolithic phenomenon; languages vary at least in how many nouns are ambigeneric, whether ambigeneric nouns form a natural class, and whether the ambigeneric nouns have specific kinds of plural interpretations. However, we hope to have shown that, at least for languages where ambigeneric nouns do not form a natural class and do not trigger any special interpretation, a Distributed Morphology analysis where ambigeneric nouns lack gender features is a promising way forward.

Outside of its implications for the analysis of ambigeneric nouns, the conclusions of this paper lend support to the approach to the morphosyntax of gender developed in Kramer 2015a, especially that “neuter” nouns lack gender features across languages. The specific analyses of Romanian and Guébie are built on (the assumptions of) that approach, so insofar as they are successful, they provide further corroboration.

We close with some brief discussion of two additional implications. First, the parallel between Guébie and Romanian gender shows that gender systems can be configured very similarly across languages even when the identity of the gender feature is different. The Guébie

³⁷ To be clear, we are arguing against using two **binary** features to capture the ambigeneric pattern. We use a single binary feature to explain the Guébie analysis in Section 4 ([+/-HUMAN]) for the sake of simplicity, but two privative features would work just as well as long as the ambigeneric nouns continue to lack features (e.g., *n*[HUMAN], *n*[NON-HUMAN] and *n*). Note also that if the [NON-HUMAN]/[G] feature were uninterpretable, it would be the only uninterpretable gender feature in the language and essentially stipulated solely for the purposes of the analysis.

³⁸ M22 also notes that the Impoverishment rules in Kramer 2015b allow for many other possible languages to be generated: a language where masculine is Impoverished in all numbers, a language where feminine is Impoverished in all numbers, and a language that is the opposite of Romanian where masculine would be Impoverished in the plural and feminine in the singular. However, since M22’s analysis uses similar Impoverishment rules, to the best of our knowledge, it also allows for this. We believe it is an empirical question whether there are attested gender systems with these properties.

gender system assigns gender semantically based on human-ness, whereas the Romanian gender system assigns it semantically based on social gender identity for humans or biological sex for animals (masculine/feminine). However, because Guébie and Romanian are so similar, it seems that a different interpretation of the gender feature does not lead to a different morphosyntax, thus supporting treatments of grammatical gender as a uniform morphosyntactic phenomenon (as in e.g., Corbett 1991 and Kramer 2015a).

Future work will also hopefully explore the implications of the Guébie/Romanian parallel for the diachrony of gender. Both Romanian (Mallinson 1984; Loporcaro 2018) and Guébie (Marchese 1988; Zogbo 2017) descend from languages with larger numbers of genders. It seems it would be fruitful to investigate whether ambigeneric nouns are a common or necessary stage in the historical reduction of grammatical gender systems, especially if ambigenics are best analyzed as nouns that (have come to) lack gender features.

Abbreviations

Gloss abbreviations follow the Leipzig Glossing Conventions with the addition of HUM – human gender, NONHUM – nonhuman gender, and PART – particle.

Funding Information

Hannah Sande’s research was supported by NSF-DEL grant #1760302.

Acknowledgements

Many, many thanks to the Guébie community. Thanks also to Maya Barzilai, Alison Biggs, Bryce Huebner, Nubantood Khalil, Maddie Oakley, and Lydia Felice for valuable feedback, to Naomi Lee for commenting on the whole paper, and to the audience at the 50th Annual Conference on African Linguistics. We thank the editor and the three anonymous reviewers whose generous and thorough comments greatly improved the paper. Finally, we thank Jack Pruett, Luopeng Zheng, and Erin Tirpak for assistance in the preparation of this manuscript.

Competing Interests

The authors have no competing interests to declare.

References

- Acquaviva, Paolo. 2008. *Lexical Plurals*. Oxford: Oxford University Press.
- Adamson, Luke. 2021. The locus of gender interpretation: A Reply to Yatsushiro and Sauerland (2006). Ms., Harvard University.
- Alexiadou, Artemis. 2004. Inflection class, gender and DP-internal structure. In Müller, Gereon, Gunkel, Lutz & Gisela Zifonun (eds.), *Explorations in Nominal Inflection*, 21-50. Berlin: Mouton.
- Aronoff, Mark. 1994. *Morphology by Itself: Stems and Inflectional Classes*. Cambridge, Mass.: MIT Press.
- Baerman, Matthew & Brown, Dunstan & Corbett, Greville G. 2005. *The Syntax-Morphology Interface: A Study of Syncretism*. Cambridge: CUP.
- Bailyn, John F. & Nevins, Andrew. 2008. Russian genitive plurals are impostors. In Bachrach, Asaf & Nevins, Andrew (eds.), *Inflectional Identity*, 237-270. Oxford: OUP.
- Bat-El, Outi. 1997. On the visibility of word-internal morphological features. *Linguistics* 35. 289-316.

- Bat-El, Outi. 2009. A gap in the feminine paradigm of Hebrew: a consequence of identity avoidance in the suffix domain. In Rice, Curt & Blaho, Sylvia (eds.), *Modeling Ungrammaticality in Optimality Theory*, 165-194.
- Bateman, Nicoleta & Polinsky, Maria. 2010. Romanian as a two-gender language. In Gerdts, Donna & Moore, John & Polinsky, Maria (eds.), *Festschrift for David Perlmutter*, 41–77. Cambridge, MA: MIT Press.
- Bazell, C. E. 1937. The Roumanian neuter. *Neuphilologische Mitteilungen* 38. 273-275.
- Benua, Laura. 1997. Transderivational identity. Doctoral dissertation, University of Massachusetts, Amherst.
- Bing, Janet. 1987. Phonologically conditioned agreement: Evidence from Krahn. *Current Approaches to African Linguistics* 4. 53-60. DOI: <https://doi.org/10.1515/9783110882681-006>.
- Bobaljik, Jonathan David. 2002. Syncretism without paradigms: remarks on Williams 1981, 1994. In Booij, Geert & van Marle, Jaap (eds.), *Yearbook of Morphology 2001*, 53-85. Dordrecht: Foris.
- Bonet, Eulalia. 1991. Morphology after syntax: pronominal clitics in Romance. Doctoral dissertation, Massachusetts Institute of Technology.
- Bresnan, Joan. 2001. Explaining morphosyntactic competition. In Baltin, Mark & Collins, Chris (eds.), *Handbook of Contemporary Syntactic Theory*, 1-44. Oxford: Blackwell.
- Chitoran, Ioana. 1992. The Romanian gender system in the framework of markedness theory. *Revue Roumaine de Linguistique* 37. 177-190.
- Corbett, Greville. 1991. *Gender*. Cambridge: CUP.
- Corbett, Greville G. 2011. Sex-based and non-sex-based gender assignment. In Dryer, Matthew S. Dryer & Haspelmath, Martin, (eds.), *The World Atlas of Language Structures Online*. Munich: Max Planck Digital Library, chapter 31. Available online at <http://wals.info/chapter/31>
- Croitor, Blanca & Giurgea, Ion. 2009. On the so-called Romanian “neuter.” *Bucharest Working Papers in Linguistics* 11(2). 21-39.
- Dindelegan, Gabriela Pană (ed). 2013. *The Grammar of Romanian*. Oxford. OUP.
- Dobrin, Lise M. 1995. How concrete is morphology? Theoretical consequences of literal alliterative concord. In Dainora, Audra & Hemphill, Rachel & Luka, Barbara & Need, Barbara & Pargman, Sheri, (eds.), *CLS Proceedings 31 Volume II*, 127-142. Chicago: CLS.
- Dobrovie-Sorin, Carmen & Giurgea, Ion. 2006. The suffixation of the definite articles in Balkan languages. *Revue Roumaine de Linguistique* 1. 73-103.
- Dobrovie-Sorin, Carmen & Giurgea, Ion, (eds). 2013. *A Reference Grammar of Romanian. Vol. 1: The Noun Phrase*. Amsterdam: Benjamins.
- Egner, Inge. 1989. *Précis de grammaire wobé*. Abidjan, Côte d’Ivoire: Annales de l’Université d’Abidjan XV.
- Elbourne, Paul. 2001. E-type anaphora as NP-deletion. *Natural Language Semantics* 9(3). 241–288. DOI: <https://doi.org/10.1023/A:1014290323028>.
- Embick, David. 2016. On the distribution of stem alternants: separation and its limits. In Luís, Ana R. & Bermúdez-Otero, Ricardo (eds.), *The Morpheme Debate*, 276-305. Oxford: OUP.
- Farkas, Donka. 1990. Two cases of underspecification in morphology. *Linguistic Inquiry* 22. 27-62. <https://www.jstor.org/stable/4178694>

- Farkas, Donka & Zec, Draga. 1995. Agreement and pronominal reference. In Cinque, Guglielmo & Giusti, Giuliana (eds.), *Advances in Roumanian Linguistics*, 83-102. Amsterdam: Benjamins.
- Giurgea, Ion. 2008. Gender on definite pronouns. *Bucharest Working Papers in Linguistics* 10(1). 97-121
- Giurgea, Ion. 2014. Possible syntactic implementations of the controller vs. target gender distinction: the view from ambigenics. *Language Sciences* 43. 47-61. DOI: <https://doi.org/10.1016/j.langsci.2013.10.006>
- Gouskova, Maria and Jonathan Bobaljik. 2020. Allomorphy and vocabulary insertion. Ms., New York University and Harvard University. Available at <https://www.gouskova.com/publications/>
- Graur, Alexandru. 1937. Sur le genre neutre en roumain. *Bulletin Linguistique* 5. 5–11.
- Hall, Robert A. 1965. The “neuter” in Romance: a pseudo-problem. *Word* 21. 421-427.
- Hamann, Jakob. 2010. On the syntax and morphology of double agreement in Lavukaleve. In Bank, Sebastian & Georgi, Doreen & Trommer, Jochen (eds.), *2 in Agreement*, *Linguistische Arbeitsberichte* 88. 197-225. Leipzig: Universität Leipzig.
- Harbour, Daniel. 2007. *Morphosemantic Number: From Kiowa Noun Classes to UG Number Features*. Dordrecht: Springer.
- Harbour, Daniel. 2011. Valence and atomic number. *Linguistic Inquiry* 42. 561-594.
- Harley, Heidi. 2008. When is a syncretism more than a syncretism? Impoverishment, metasyncretism and underspecification. In Harbour, Daniel & Adger, David & Béjar, Susana (eds.), *Phi Theory*, 251-294. Oxford: OUP.
- Innes, Gordon. 1966. *An Introduction to Grebo*. University of London, School of Oriental & African Studies.
- Jakobson, Roman. 1932. Zur Struktur des russischen Verbums, *Charisteria Guilelmo Mathesio Quinquagenario* 74-83. Reprinted as Structure of the Russian verb in Waugh, Linda R. & Halle, Morris (eds.), 1-12. 1984. *Roman Jakobson: Russian and Slavic Grammar*. *Janua Linguarum* 106. Berlin: Mouton.
- Jakobson, Roman. 1971. On the Rumanian neuter. In *Selected Writings* 2, Word and Language. 187-189. The Hague: Mouton.
- Kaye, Jonathan D. 1981. La sélection des formes pronominales en vata. *Revue québécoise de linguistique* 11. 117-135. DOI: 10.7202/602483ar
- Kaye, Jonathan. 1982. Harmony processes in Vata. *The structure of phonological representations* 2. 385-452.
- Kihm, Alain. 2005. Noun class, gender and the lexicon-syntax-morphology interfaces: a comparative study of Niger-Congo and Romance languages. In Cinque, Guglielmo & Kayne, Richard S. (eds.), *The Oxford Handbook of Comparative Syntax*, 459-512. Oxford: OUP.
- Koopman, Hilda. 1984. *The Syntax of Verbs: From Verb Movement in the Kru Languages to Universal Grammar*. Dordrecht: Foris.
- Koopman, Hilda & Sportiche, Dominique. 1986. A note on long extraction in Vata and the ECP. *Natural Language and Linguistic Theory* 4. 357-374.
- Kramer, Ruth. 2015a. *The Morphosyntax of Gender*. Oxford: Oxford University Press.
- Kramer, Ruth. 2015b. Impoverishment, gender, and number: predicting the patterns of syncretism. Paper presented at *Roots IV*, New York University.

- Kramer, Ruth. 2016. Syncretism in Paradigm Function Morphology and Distributed Morphology. In Harley, Heidi & Siddiqi, Daniel (eds.), *Morphological Metatheory*, 95-120. Amsterdam: Benjamins.
- Kramer, Ruth. 2019. A novel kind of gender syncretism. In Mathieu, Éric & Dali, Myriam & Zareikar, Gita (eds.), *Gender and Noun Classification*, 159-185. Oxford: OUP.
- Kramer, Ruth. 2020. Grammatical gender: a close look at gender assignment. *Annual Review of Linguistics* 6. 45-66.
- Kramer, Ruth & Teferra, Anbessa. 2020. Gender switch in Sidaama. *Brill's Journal of Afroasiatic Languages and Linguistics* 12. 286-327.
- Kramer, Ruth & Winchester, Lindley. 2018. Number and gender agreement in Saudi Arabic: morphology vs. syntax. In Cooley, Frances & Everdell, Michael & Al Bulushi, Hammal & Gutierrez Lorenzo, Ambrocio & Orjuela, Lorena & Gualapuro, Santiago David (eds.), *The Proceedings of the 17th Texas Linguistic Society*, 39-53.
- Kučerová, Ivona. 2018. ϕ -features at the syntax-semantics interface: evidence from nominal inflection. *Linguistic Inquiry* 49. 813-845.
- Lecarme, Jacqueline. 2002. Gender “polarity:” theoretical aspects of Somali nominal morphology. In Boucher, Paul & Plénat, Marc (eds.), *Many Morphologies*, 109-141. Somerville, Massachusetts: Cascadilla Press.
- Loporcaro, Michele. 2018. Romance gender systems the fuller picture. In *Gender from Latin to Romance*, 62-159. Oxford University Press.
- Lumsden, John S. 1992. Underspecification in grammatical and natural gender. *Linguistic Inquiry* 23. 469-486.
- Maiden, Martin. 2016. The Romanian alternating gender in diachrony and synchrony. *Folia Linguistica Historica* 37. 111-144. DOI: 10.1515/flih-2016-0004
- Maiden, Martin & Dragomirescu, Adina & Dindelegan, Gabriela Pană & Bărbulescu, Oana Ută & Zafiu, Rodica. 2021. *The Oxford History of Romanian Morphology*. Oxford: OUP.
- Mallinson, Graham. 1984. Problems, pseudo-problems and hard evidence: another look at the Romanian neuter. *Folia Linguistica* 18. 439-451. DOI: <https://doi.org/10.1515/flin.1984.18.3-4.439>
- Marchese, Lynell. 1983. *Atlas linguistique Kru. Essai de typologie*. Institut de linguistique appliquée, Abidjan.
- Marchese, Lynell. 1986. The pronominal system in Godié. In Wieseemann, U. (ed.), *Pronominal Systems*, 217-255. GNV Tübingen.
- Marchese, Lynell. 1988. Noun Classes and agreement systems in Kru: A Historical Approach. In Barlow & Ferguson (eds.), *Agreement in natural language: Approach, theories and descriptions*, 323-341. Stanford University Press
- Matushansky, Ora. 2022. The dual nature of the Romanian neuter. In Hewett, Matt & Kasper, Corinne & Kim, Sanghee & Kurtz, Naomi (eds.), *Proceedings of CLS 56 (2020)*, 307-320. Chicago: CLS.
- Maurice, Florence. 2001. Deconstructing gender – the case of Romanian. In Hellinger, M. & Bußmann, H. (eds.), *Gender Across Languages: The Linguistic Representation of Women and Men* 1, 229-252. Amsterdam: Benjamins.
- McCarthy, John J. & Prince, Alan. 1993. Generalized alignment. In Booij, G. and van Marle, J. (eds.), *Yearbook of Morphology 1993*, 79–153. Dordrecht: Kluwer.
- Nevins, Andrew. 2011. Marked targets versus marked triggers and impoverishment of the dual. *Linguistic Inquiry* 42. 413-444. DOI: 10.1162/LING_a_00052

- Noyer, Rolf. 1998. Impoverishment theory and morphosyntactic markedness. In LaPointe, Steven G. & Brentari, Diane K. & Farrell, Patrick M. (eds.), *Morphology and its Relation to Phonology and Syntax*, 264-285. Stanford, CA: CSLI.
- Opitz, Andreas & Pechmann, Thomas. 2016. Gender features in German: evidence for underspecification. *The Mental Lexicon* 11. 216-241.
- Parfene, Claudia & Ulfsbjorninn, Shanti. 2023. On the shape of roots in Romanian: deriving the nominal inflection classes. Paper presented at the 20th Old World Conference on Phonology, Tours, France. Available at https://www.researchgate.net/publication/367531676_On_the_shape_of_roots_in_Romanian_deriving_the_nominal_inflectional_classes
- Percus, Orin. 2011. Gender features and interpretation: a case study. *Morphology* 21. 167-196.
- Ritter, Elizabeth. 1993. Where's gender? *Linguistic Inquiry* 24. 795-803.
- Rose, Sharon & Walker, Rachel. 2004. A typology of consonant agreement as correspondence. *Language* 80. 475-31.
- Sande, Hannah. 2017. Distributing morphologically conditioned phonology. Doctoral dissertation, UC Berkeley.
- Sande, Hannah. 2018. Cross-word morphologically conditioned scalar tone shift in Guébie. *Morphology* 28(3). 253-295.
- Sande, Hannah. 2019a. Phonologically determined nominal concord as post-syntactic: Evidence from Guébie. *Journal of Linguistics*. 831-878. DOI: 10.017/S0022226718000476.
- Sande, Hannah. 2019b. A unified account of conditioned phonological alternations: Evidence from Guébie. *Language* 95(3). 456-497.
- Sande, Hannah. 2020. Morphologically conditioned phonology with two triggers. *Phonology* 37(3). 453-493.
- Sande, Hannah. 2022. The phonology of Guébie. *Language & Linguistics Compass*, e12468. <https://doi.org/10.1111/lnc3.12468>
- Schwarzwald, Ora. 1991. Grammatical vs. lexical plural formation in Hebrew. *Folia Linguistica* 25. 577-608.
- Taraldsen, Tarald. 2017. A recalcitrant syncretism. *Rivista di Grammatica Generativa* 39. 45-52.
- Trommer, Jochen. 2016. A postsyntactic morpheme cookbook. In Siddiqi, Daniel and Heidi Harley (eds.), *Morphological Metatheory*, 59-93. Amsterdam: John Benjamins.
- Williams, Edwin. 1994. Remarks on lexical knowledge. *Lingua* 92. 7-34. DOI: [https://doi.org/10.1016/0024-3841\(94\)90336-0](https://doi.org/10.1016/0024-3841(94)90336-0)
- Zogbo, Lynell Marchese. 2017. Les vestiges des classes nominales dans les langues Kru: Accord et suffixes. *Typologie et documentation des langues en Afrique de l'Ouest: Les actes du 27e Congrès de la Société de Linguistique de l'Afrique de l'Ouest (SLAO 159)*.