Halpert, Claire & Hammerly, Christopher. 2026.
Reconciling animacy and noun class in Bantu.
Glossa: a journal of general linguistics 11(1).
pp. 1–25. DOI: https://doi.org/10.16995/glossa.17968

Open Library of Humanities

Reconciling animacy and noun class in Bantu

Claire Halpert, University of Minnesota, halpert@umn.edu

Christopher Hammerly, University of British Columbia, chris.hammerly@ubc.ca

This squib investigates the relationship between animacy and the noun class system of Bantu languages. Combining facts from various animacy-sensitive phenomena across the family, including anti-agreement, animacy override, and agreement resolution under conjunction, we argue that the featural properties of Bantu nouns directly encode a prominence hierarchy. We show that all nouns, regardless of the noun class expressed on the surface, are underlyingly specified for a CORE NOUN CLASS, which encodes whether a noun is a human (class 1/2), non-human animate (class 9/10), or inanimate (class 7/8). We propose that core noun class is morphologically encoded by the *final vowel* found on many Bantu nouns, and syntactically encoded by the nominal categorizing head *n* using the features [±Animate] and [±Human]. We further argue that core noun class can be obscured by the *stacking* of multiple *n*'s within the nominal spine, creating a mismatch between the morphophonological expression of class within a noun versus the expression in agreement. We discuss the consequences of this proposal for the wider theory of Bantu noun class and theories of agreement.

1 Introduction

This squib investigates how animacy is encoded in the grammar of Bantu languages. In particular, we explore how the animacy hierarchy, as formalized, for example, by Hammerly (2023), is directly encoded through the noun class system. A variety of syntactic phenomena from across the Bantu family suggest that animacy plays an active role. At the same time, the noun class system, which governs a wide variety of morphosyntactic processes, does not straightforwardly map onto animacy distinctions. These seemingly misaligned taxonomies raise a puzzle: what features are syntactically present on nouns in Bantu, and how are they realized morphologically? Drawing on recent work on noun class stacking (Fuchs & van der Wal 2022) and final vowel morphology (Mletshe 2019; Msaka 2019; Msaka & Biberauer 2024), we suggest that noun class morphology is essentially a hybrid system: a core semantic distinction between human, non-human animate, and inanimate nouns is present within all nouns, encoded by the final vowel. These basic distinctions are typically realized by class 1/2 for humans, class 9/10 for non-human animates, and class 7/8 for inanimates. Other noun classes can be derived via additional nominal structure stacked on top of this core. The existence of these core noun classes gives a pathway to account for various hierarchy effects and agreement phenomena observed across Bantu languages.

2 A theory of noun class

Our account centers around the idea that there are certain types of nouns classes, dubbed *containment*-type noun class (Hammerly 2023), which differ from other types of noun classes in their relation to agreement hierarchy effects. Containment type noun classes form part of a *prominence hierarchy*, which ranks speech-act participants and various other categories related to humanness, animacy, agentivity, concreteness, and more. An example hierarchy is given in (1).

(1) AUTHOR (I) > ADDRESSEE (U) > HUMAN OTHERS (O) > ANIMAL OTHERS (A) > NATURAL FORCES (F) > CONCRETE THINGS (R) > ABSTRACT THINGS (S)

Prominence scales have been used to describe grammatical patterns related to agreement, word order, and case-marking across languages of the world (e.g. Lockwood & Macaulay 2012). As we show in section three, some Bantu languages show animacy hierarchy effects for phenomena like agreement and concord; Hyman & Duranti (1982), for example, proposed the following animacy hierarchy as one of multiple factors determining the likelihood of object agreement:

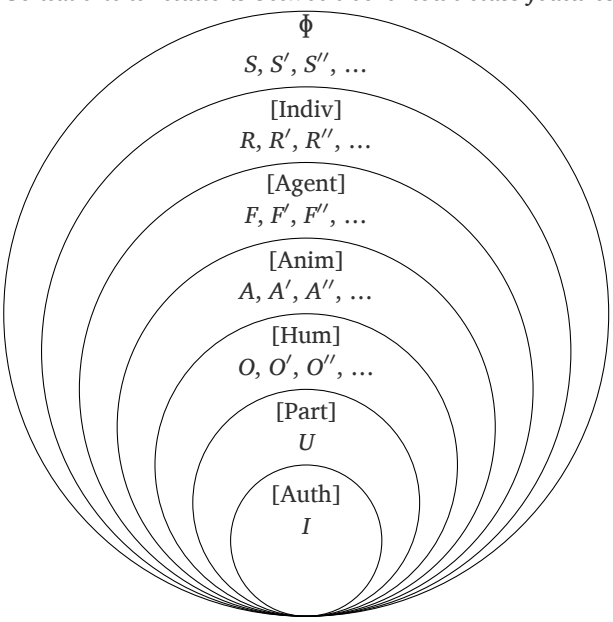
(2) 1st > 2nd > 3rd human > 3rd animal > 3rd inanimate (Hyman & Duranti 1982: (24))

Much work within Minimalism has sought to derive prominence-hierarchy effects from more fundamental principles of the grammar such as *features*. This paper builds on recent work by Hammerly (2020; 2021; 2023), who argues that features are further decomposed into sets of

morphosyntactic *primitives*.[1] Primitives syntactically encode fundamental ontological distinctions made between different types of entities, including the author of a linguistic act (*I*), the addressee (*U*), non-interlocutor humans (*O*'s), animals (*A*'s), natural forces (*F*'s), concrete things (*R*'s), and abstract things (*S*'s). Morphosyntactic features such as [Author], [Participant], or [Animate] are made up of subsets of primitives.

Critically, with containment type noun class features (as well as person features) these sets of primitives stand in proper subset/superset relationships: for example, [Participant] is defined by the set $\{I, U\}$, which is a superset of the set $\{I\}$ that defines [Author]. Therefore any syntactic operation that targets a category with a broader feature necessarily targets all features in a subset relation, capturing hierarchy effects (Hammerly 2020; 2021). The containment relations between features relevant to deriving the categories in (2) is schematized in (3), with the widest category that captures the entire ontology being ϕ.

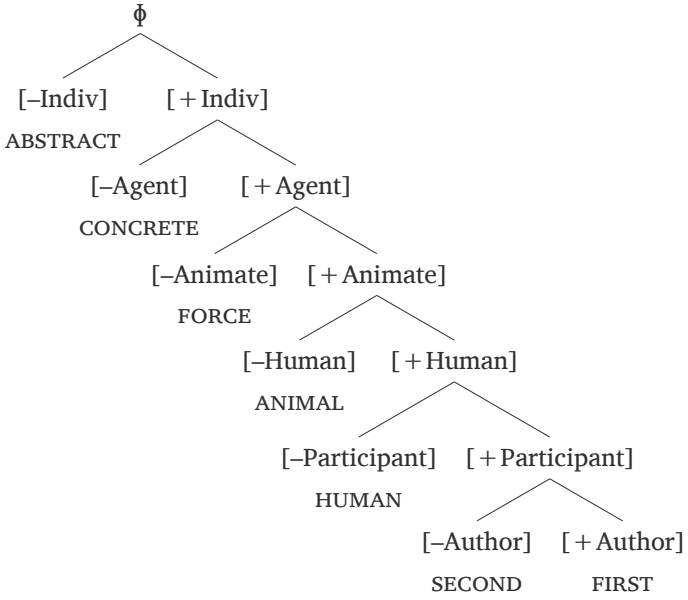
(3) *Containment relations between core noun class features*



These features combine to give rise to different nominal categories by way of bivalent feature values, specified as positive (+) or negative (–). At the limit, each primitive defines its own morphosyntactic category. This eventuality is schematized by the *contrastive hierarchy* in (4), which shows the logically possible feature-value combinations, excluding contradictory combinations (e.g. [–Participant] and [+Author]) and redundant combinations (e.g. [–Participant] and [–Author]).

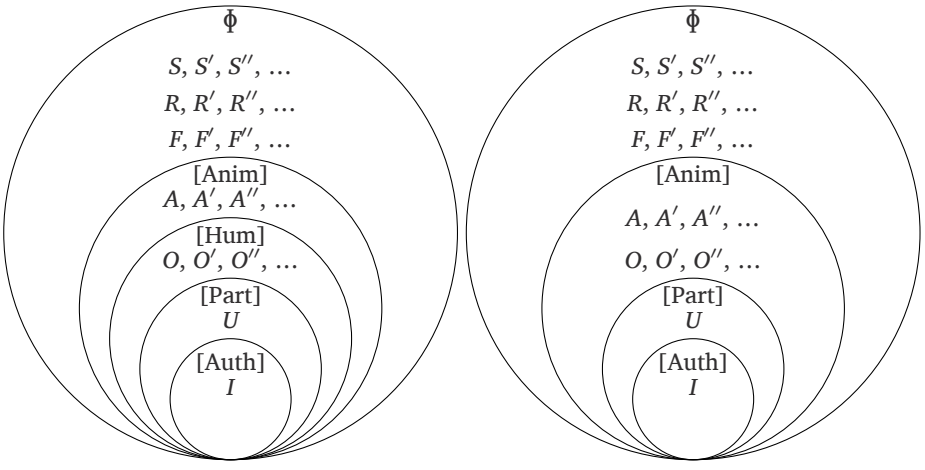
[1] The main alternative to the present analysis of features is the *feature geometry* (e.g. Harley & Ritter 2002; Béjar 2003). We will not discuss this alternative in depth, but see Hammerly (2021; 2023) for arguments against adopting a feature geometric account of the derivation of person inventories and to capture person-animacy hierarchy effects.

(4) *Contrastive hierarchy for core noun class and person features*



We assume that primitives, features, and therefore the contrastive hierarchy, are universal: the human language faculty affords the *potential* to make the set of distinctions in (4).[2] However, not every language makes use of all possible features. For example, a language that lacks the [Indiv] and [Agent] features is one in which there is no grammatical distinction between abstract things, concrete things, and natural forces – *conflating*, in the sense of McGinnis (2005), the ontological elements *S*, *R*, and *F* into a category we might call GENERIC INANIMATE, as schematized in the left-side Venn diagram in (5). If a language additionally lacks the [Hum] feature, it will conflate the human and animal categories, creating a GENERIC ANIMATE that includes the ontological elements *A* and *O*, as schematized in the right-side Venn diagram in (5).

(5) *Conflations leading to* GENERIC INANIMATE *and* GENERIC ANIMATE *categories*



[2] And possibly more – see Hammerly (2023) for discussion of how other distinctions related to obviation and elder status are encoded in this system.

The account also predicts certain patterns of conflation should never be observed—for example, it is not possible to create a category that encompasses non-interlocutor humans (*O*) with natural forces (*F*) to the exclusion of animal beings (*A*). This is because the only features that contains both *O* and *F* also contain at least *A* (namely, [Agent] and [Indiv]), and there is no feature that contains *A* to the exclusion of *O*.

In the coming sections we propose that *core* noun classification in the languages of the Bantu family are encoded with containment-type features, with other *secondary* noun classes stacking on top and often obscuring this core system. This deeper pattern of core noun class is reflected in a variety of agreement-related phenomena, and morphophonologically encoded in the system of final vowels.

3 The logic of animacy in Bantu grammar

A salient feature of Bantu languages is the grammaticalized division of nouns into differnt noun classes. As we will see, it is initially difficult to map divisions between noun classes onto something like the prominence hierarchy discussed above. However, when we move away from the specifics of noun class, we find phenomena throughout Bantu languages that suggest a predictable encoding of prominence distinctions.

3.1 The logic of noun class?

Noun class systems in modern Bantu languages are reduced versions of a Proto-Bantu system that contained around 20 distinctions (see Maho 1999: for an overview). Each class is specified for number; there are canonical singular-plural pairings, but widespread idiosyncracies and exceptions have kept most researchers from collapsing the number distinctions. It is difficult to assign clear-cut semantic distinctions to noun classes, both within a single language and across the language family. **Table 1** gives a compilation of noun classes, reconstructed Proto-Bantu prefixes, their extant versions in Chichewa, and their associated semantic properties as constructed by Msaka (2019).

Challenges emerge when we attempt to order (subsets of) noun classes into the containment relationships typical of the prominence hierarchies discussed in Section 2. As Maho notes, "[a]ssuming a transparent and/or regular semantic model for Proto-Bantu may not be that wise" (Maho 1999: 69). At the same time, some commonalities emerge from these attempts. For example, Hendrikse & Poulos (1992) arrange noun classes on a continuum of concreteness, where certain noun classes are associated with concrete entities, while others (like locatives) are less concrete, and still others are fully abstract. This type of distinction is evident in other systems, such as Denny & Creider (1986); in the portion of their system that focuses on (concrete) count nouns, they make additional distinctions, separating out three SG/PL pairs as basic "kinds": class 7/8 "artifact," and two "animate" pairs: class 1/2 "human" and 9/10 "animal". Msaka (2019)

Noun class	Proto Bantu prefix	Chichewa Prefix	semantics
1	*mù-	m(u)-	humans
1a	*ø	ø	kinship terms, personified animals
2	*va-	a-	honorific, plural to 1
2a	*va-	a-	honorific, plural to 1a
3	*mu-	m(u)-	trees, plants, inanimates
4	*mi-	mi-	plural to 3
5	*li-	li-	miscellaneous, paired things, augmentatives
6	*ma-	ma-	liquids, collectives, plural to 5, 9, 11, 14, and 15
7	*ki-	chi-	inanimates, manner/style, diminutives, augmentatives
8	*bi-	zi-	plural to 7
9	*n-	N-	animals
10	*n-c	N-	plural to 9 and 11
11	*du-		long thin things, abstracts
12	*ka-	ka-	diminutives
13	*tu-	ti-	plural to 12
14	*bu-	u-	abstract nouns, mass nouns, plural to 12
15	*ku-	ku-	infinitives
16	*pa-	pa-	locatives, ‘near’ or ‘explicit’
17	*ku-	ku-	locatives, ‘remote’ or ‘general’
18	*mu-	m(u)-	locatives, ‘inside’
19	*pi-		diminutives
20	*ɤo-		augmentatives, diminutives
21	*ɤi-		augmentatives, pejoratives
22	*ɤa-		plural to 20
23	*ɤe/*i-		locative, unspecified

Table 1: Noun classes and associated semantics from Msaka (2019).

refers to such generalizations as forming SUPER NOUN CLASSES (see also Maho 1999; Rugemalira 2025: for discussion).

One challenging property of Bantu noun class systems is that for any semantic generalization relating to prominence hierarchies, there are substantial classes of exceptions. In particular, while it is not uncommon for nouns to be “promoted” up the animacy hierarchy (e.g., semantically inanimate nouns to be grammatically animate), Bantu languages have pervasive “demotions:”

semantically human or animate nouns appearing in typically non-human/inanimate noun classes in large numbers (for example, see Contini-Morava 2008: on Swahili). The Zulu examples below illustrate mismatches in both directions.

(6) *Zulu* non-human noun promotions into class 1a/2a
   a. uxamu/oxamu (cl 1a/2a) ‘monitor lizard’
   b. u-3, u-4, etc (cl 1a) borrowed numbers

(7) *Zulu* human noun demotions
   a. indoda/amadoda (cl 9/6) ‘man’
   b. ivila/amavila (cl 5/6) ‘lazy person’
   c. isigwili/izigwili (cl 7/8) ‘well-to-do person’ or ‘greedy person’

In sum, noun class does not link directly into the prominence hierarchy in an immediately neat way. However, if we look at the behavior of nouns that are semantically human/animate, regardless of noun class, it becomes clear that animacy is grammatically relevant for various phenomena.

3.2 Animacy hierarchy effects

One common animacy effect pertains to the behavior of noun class 1/2 and to humans in particular, and animates to a lesser extent. First, we’ll look at two properties that are associated with the prototypical human noun class, class 1/2: alternative agreement and animacy override. Taken together, these properties illustrate that humanness is a grammatically relevant category, with the predicted containment relationship between local persons and human entities captured by the inner circles of (2).

Alternative agreement (or anti-agreement) refers to a pattern in some Bantu languages in which certain A-bar extracted subjects require a different subject agreement morpheme than what is used in non-extraction contexts (e.g. Bokamba 1976; Kinyalolo 1991; Cheng 2006; Wasike 2006; Henderson 2007; 2009; 2013; Diercks 2009; 2010). The alternative morpheme is required for local persons and all nouns in class 1 (regardless of semantic animacy); singular local persons and class 1 flatten to the same “AA” morpheme. Plural local persons reduce to the noun class 2 agreement marker. For example, Lubukusu uses *a-* as the standard noun class 1 subject marker, but *o-* with A-bar extraction:

(8) *Lubukusu* alternative agreement for local persons and class 1
   a. Naliaka a-li mu-nju
      1Naliaka 1SM-be 18-house
      ‘Naliaka is in the house.’ (Wasike 2006: 235)

b. Naani o-**o**-li mu-nju?
1who 1C-1AA-be 18-house
'Who is in the house?' (Wasike 2006: 236)

c. Nise/niwe o-w-onak-e ku-mu-lyango kuno
1SG.PRO/2SG.PRO 1C-1AA-damage-PST 3-3-door 3-DEM
'It is I/you who damaged the door.' (Diercks 2010: 133)

By contrast, other noun classes in Lubukusu use the same subject marker in both declaratives and A-bar extraction, as the class 7 pair below shows:

(9) *Lubukusu* standard agreement outside of class 1

a. si-si-ndu **sy**-a-kwa
7-7-thing 7SM-PST fall
'The thing fell.'

b. si-si-ndu si-**sy**-a-kwa
7-7-thing 7C-7SM-PST fall
'The thing which fell.' (Diercks 2010: 117)

Some languages without an alternative morpheme for class 1/2 reduce local persons to class 1/2 morphology in certain cases, as in relative clauses or adjectival predication in Zulu:

(10) *Zulu* reduction of local persons to class 1/2

a. Yi-mina **o**-khuluma-yo
COP-1SG.PRO 1SM.REL-speak-DJ.REL
'It's me who's speaking.'

b. Nina ni-**ba**-hle
2PL.PRO 2PL-2SM-good
'You (pl) are good.' (author's fieldnotes)

These alternative agreement effects, as noted by Baier (2016) and others, are evidence that local persons are a more highly specified subset of noun class 1/2, exactly as the prominence hierarchy captures.

What about human nouns that appear in other noun classes? There is evidence here, too, that some Bantu languages are tracking humanness—and animacy more generally—using noun class 1/2, even when the nouns themselves are not morphologically in this class. In such languages, human or all animal/animate nouns that are morphologically in noun classes other than 1/2 trigger class 1/2 agreement and concord morphology, rather than their grammatical noun class, a phenomenon known as "animate concord" (Wald 1975), "animacy agreement", or "animacy" override".

In Chiyao, humans outside of noun class 1 typically trigger obligatory animacy agreement:[3]

(11) a. Chi-lundamisi nga-ni-**a**-lila
7-last.initiate NEG-PST-1SM-cry
'The last initiate did not cry.'
b. *Chi-lundamisi nga-ni-**chi**-lila
7-last.initiate NEG-PST-7SM-cry
Chiyao (Riedel & Taji 2022: (28))

Some non-human animates in Chiyao (which never originate in class 1/2) trigger animacy agreement as well. In particular, animates in class 9/10 optionally take class 1/2 animacy agreement:

(12) a. A-ku-**m**-l-isy-a mbaka jwao
1SM-PRES-1OM-eat-CAUS-FV 9cat 1POSS.3SG
'He/she is feeding his/her/their cat.'
b. A-ku-**ji**-l-isy-a mbaka
1SM-PRES-9OM-eat-CAUS-FV 9cat
'He/she is feeding a/the cat.' Chiyao (Riedel & Taji 2022: (35), glosses modified)

In Swahili, agreement more straightforwardly tracks animacy: human and animal referents typically control obligatory class 1/2 agreement and concord, regardless of origin noun class.[4] (13) below shows the difference between inanimate and animate nouns in class 7:

(13) a. Ki-su **ch**-ake **ki**-meanguka
7-knife 7-1SG.POSS 7SM-has.fallen
'My knife has fallen.'
b. Ki-ongozi **w**-ake **a**-meanguka
7-leader 1-1SG.POSS 1SM-has.fallen
'My leader has fallen.' Swahili (Contini-Morava 2008: (1), glosses modified)

Animacy can also be a factor in determining which objects can or must control doubling marking on a verb. Some languages show obligatory object doubling for local persons, for class 1/2, or for all humans/animates (see e.g. Riedel 2009: for an overview and discussion). In Nyaturu, for example, object doubling with an overt animate object is allowed (and sometimes necessary); with an overt inanimate object, it is ungrammatical:

[3] As Riedel & Taji (2022) describe, exceptions are human nouns denoting socially disapproved behaviors, which show actual noun class agreement.

[4] See Pesetsky (2019) for a discussion and analysis of exceptions.

(14) a. N-a-**m**ʊ-onaa mwalimu
1SM-PAST1-1OM-see 1teacher
'I saw the teacher.'
b. *N-a-**kɪ**-onaa kɪtabu
1SM-PAST1-7OM-see 7book
Int: 'I saw the book.' Nyaturu (Hualde 1989: 182, glosses modified)

These patterns reveal overarching morphosyntactic effects of animacy in Bantu that transcend noun class distinctions, despite the lack of a clean mapping between animacy and noun class. As such, a puzzle emerges: how is animacy morphosyntactically encoded in Bantu languages to allow such effects to arise? The patterns of agreement convergence with coordinated noun phrases that we discuss in the next section will reveal the features that underpin Bantu noun class.

3.3 Agreement convergence effects

Since noun classes in Bantu generally come in singular/plural pairs, a reasonable *a priori* hypothesis regarding agreement with coordinated nouns would be that coordinating two singular nouns of the same class would lead to agreement with the corresponding plural class marker. To some degree, this hypothesis is borne out. For example, consider the example in (15) from Taraldsen et al. (2018)'s work on Xhosa, where two conjoined class 1 nouns result in the expected class 2 agreement marker *ba-*.[5]

(15) U-m-ntwana no-m-fazi **ba-**ya-dlala.
1-1-child and.1-1-woman **SM2-**DJ-play
'The child and the woman are playing.' Xhosa (Taraldsen et al. 2018: 1345)

However, this initial hypothesis breaks down when we consider the wider picture. Consider the set of irregular nouns that fall into class 1 in the singular, but class 6 (rather than 2) in the plural. We might expect that conjoining two of these nouns should trigger class 6 subject agreement. This is not the case. Instead, they show class 2 agreement, as in (16).

(16) U-m-Xhosa no-m-Zulu ba/*a-sebenza ndawonye.
1-1-Xhosa and.1-1-Zulu SM2/SM6-work together
'A Xhosa and a Zulu work together.' Xhosa (Taraldsen et al. 2018: 1346)

Convergence to class 2 subject marking is not limited to class 1 singulars: Taraldsen et al. (2018) show that when conjoining two human-referring singular nouns where both are from class 3 or class 5, or when mixing two human-referring singular nouns of any class, only class 2 agreement

[5] Taraldsen et al. (2018) use SC (subject concord) to gloss agreement markers; we standardize to SM throughout.

is possible.[6] This parallels the animacy agreement effects we saw for non-coordinated nouns in (11) and (12).

Subject agreement with *inanimate* coordinated nouns also reveals a convergence. However, rather than converging to class 2 agreement or the "expected" corresponding plural class, inanimate singular nouns in classes 1, 3, and 5 (as well as 7 and 9, as expected) converge to class 8/10.[7] The example in (17) demonstrates this process with two inanimate class 5 nouns.

(17) I-li-tye ne-qanda zi/*a-khataza i-n-taka
5-5-stone and.5-egg SM8.10/SM6-annoy 9-9-bird
'The stone and the egg annoy the bird.' Xhosa (Taraldsen et al. 2018: 1347)

To complete the empirical picture, we must consider cases of human nouns in classes 7 and 9, and inanimates in class 1. Regardless of animacy, Xhosa speakers prefer agreement with the "expected" plural class in these cases. So both animate and inanimate nouns in classes 7 and 9 appear with class 8/10 subject agreement (so do *not* show a convergence to class 2), and both animate and inanimate nouns in class 1 appear with class 2 subject agreement (so do *not* show a convergence to class 8/10).[8]

The overall patterns for conjunct agreement in Xhosa are summarized in the table in (18).[9]

(18) *Summary of primary patterns with conjoined nouns in Taraldsen et al. (2018)*

Class (SG)	Both human	Both inanimate
Class 1	SM2	SM2
Class 3	SM2	SM8/10
Class 5	SM2	SM8/10
Class 7	SM8/10	SM8/10
Class 9	SM8/10	SM8/10
Mixed	SM2	SM8/10

[6] See also Corbett & Mtenje (1987) for an earlier exposition of similar convergences in Chichewa, where many of these patterns can be observed, and Carstens (2019; 2026) for recent work on conjunctions with plural nouns in Xhosa.

[7] Classes 8 and 10 have a homophonous plural subject marker, *zi-*, so cannot be distinguished. The coming analysis will shed light on why a syncretism is possible here: we propose that they both share the feature [–Human].

[8] In fact, there is some variation in judgments among speakers with conjoined animate nouns in class 7 and 9 reported by Taraldsen et al. (2018): with conjoined class 7 nouns, a minority of speakers (2 of 20 consulted) *also* accepted a convergence to class 2 agreement; with conjoined class 9 nouns, 14 of 20 only choose class 8/10 agreement, 2 of 20 accepted both class 8/10 and 2, and 4 of 20 accepted only the class 2 convergence. We abstract away from this variation for the purposes of the present paper and focus on the majority pattern.

[9] A question may arise as to what happens with so-called "semantically mixed" cases, where, for example, a human and inanimate noun are conjoined. Data is somewhat limited, but the general pattern is that such cases are dispreferred or ungrammatical, and instead a comitative construction is used (for data from Chichewa, see Corbett & Mtenje 1987: 33). However, to the degree these types of conjunctions are marginally possible, if a human is involved, we get agreement converging to class 2 (see Corbett & Mtenje 1987: examples (73)-(75) and surrounding discussion). In other words, we see a pattern consistent with a hierarchy effect where human outranks animate and inanimate.

The generalizations can be stated simply. When two singular nouns are conjoined in Xhosa, subject agreement is either class 2 *ba-* or class 8/10 *zi-*. These markers are distributed such that coordinated nouns in classes 1, 7, and 9 show *expected* subject agreement, while all other classes show animacy-based *convergence*, with animate nouns converging to SM2 and inanimate to SM8/10. Why do conjoined plurals collapse to a subset of noun class distinctions? In the next section, we'll argue that these convergences, along with animacy-based anti-agreement, animacy override and object doubling, can be understood as arising from a system of core noun classes.

4 Encoding the animacy hierarchy: core noun classes in Bantu

We have now seen a number of phenomena that suggest that animacy should be encoded in the morphosyntax of Bantu nouns. Animacy-sensitive syntactic phenomena, including anti-agreement, animacy agreement, and object doubling, motivate the need for the syntax to access the animacy properties of Bantu nouns. In turn, the link between animacy-based categories such as HUMAN, ANIMATE, and INANIMATE and particular numbered noun classes is motivated by the patterns of convergence: all nouns must underlyingly fall into classes 1/2, 7/8, or 9/10 in order for such convergences to arise. Taken together, we can advance a hypothesis for the relationship between the animacy features [±Animate] and [±Human] and traditional Bantu noun classes, which forms the basis for our proposed analysis.

(19) *Core Noun Class Hypothesis*
All Bantu nouns *underlyingly* fall into one of three Core Noun Classes based on humanness and animacy.[10]
a. HUMAN = [+Animate, +Human, ±Group] ≈ Class 1/2
b. ANIMATE = [+Animate, –Human, ±Group] ≈ Class 9/10
c. INANIMATE = [–Animate, –Human, ±Group] ≈ Class 7/8

This basic hypothesis finds a number of antecedents in the literature. For example, Taraldsen et al. (2018) note that "The semantic content of N_1 [class 1] may be just 'human' and that of N_7 [class 7] just 'thing.'" (p. 1379) and "the N inside the class 9 prefix might denote something like living things" (p. 1376, footnote 53). Similar views go back further, as noted by Katamba (2004: 18): "They [Creider (1975); Denny & Creider (1986)] divide the classes into two basic sets, with partly overlapping morphology. One set includes classes 1/2, 7/8 as well as 9/10 which contain nouns that indicate 'kinds of entities' (i.e. people, tools and animals, respectively). The other set contains nouns that indicate spatial and shape configurations such as roundness, length and size". Like all noun class systems, there are idiosyncrasies: for example, as previously noted, some humans fall into Class 7/8 or 9/10 rather than the prototypical class 1/2, and as such do not converge to show

[10] The combination [–Animate, +Human, ±Group], while logically possible, is semantically incoherent (being human entails being animate) and is therefore ruled out.

class 2 agreement under coordination. However, the presence of an idiosyncratic fringe does not negate the fact that there is a semantic core. And more importantly, these idiosyncrasies are still consistent with the hypothesis that all nouns fall into one of these three core classes, even if the particular class is not perfectly predictable.

Furthermore, as noted in Section 2, we predict certain patterns of conflation and/or syncretism between the three core classes should be possible. For example, a language may fail to distinguish (either entirely, or just in certain morphophonological corners) between non-human animates (canonically class 9/10) and inanimates (canonically class 7/8) by being insensitive to the [±Animate] feature, leaving just [±Human] to make the cut. This is the case for Xhosa, where SM8 and SM10 have the same morphophonological form (*zi-*), made possible by the fact that both share [–Human]. Similarly, we expect there to be cases where languages fail to distinguish human animates (canonically class 1/2) from non-human animates (again, canonically class 9/10), creating what we previously termed a "generic animate" pattern. This is the case, for example, in Swahili (e.g. example (13)), where both humans and animals converge to class 1/2 under animacy override. This is made possible by both categories sharing [+Animate].

With this hypothesis in hand, the next subsection builds a particular proposal by identifying a potential morphosyntactic locus for core noun class: the final vowels.

4.1 Final vowels as a locus of core noun class

Final vowels in Bantu are vowels that frequently appear at the end of a stem and are associated with verbalizing and nominalizing functions (e.g. Julien 2002; Mletshe 2017; Msaka 2019). For example in Chichewa (as in many other Bantu languages), the final vowel *-a* (20a) is associated with a verbalizing function, and the final vowel *-i* (20b) is associated with a nominalizing function.

(20) a. gonth-a
deaf-VFV
'be deaf'
b. gónth-i
deaf-NFV
'deaf person' Chichewa (Msaka 2019: 74)

Relevant for our current purposes is that there are generally two different nominalizing final vowels: *-i* and *-o*. As exemplified with the minimal pair in (21), nouns formed with *-i* are generally animate and those formed with *-o* are generally inanimate.

(21) a. u-m-thiml-i
CL1-CL1-sneeze-NFV.ANIM
'A person who sneezes'

b. u-m-thiml-o
CL3-CL3-sneeze-NFV.INAN
'A manner of sneezing' Xhosa (Mletshe 2019)

Msaka (2019) demonstrates the consistency of this correspondence between animacy and the two final vowels in a quantitative corpus study of Chichewa. He shows that *-i* overwhelmingly appears with agentive nouns and *-o* with non-agentive nouns (see especially pages 157–162). From this, he argues that there are two "super noun classes"—one "agentive" (most closely associated with Class 1/2) and the other "non-agentive" (which he associates with all other classes). Similarly, Mletshe (2019) argues for a decompositional analysis of Xhosa nouns that relate the final vowel *-i* in particular to animacy and agentiveness in nominalizations.

Given the categorizing function associated with final vowels and the association with animacy in the nominal domain, we adopt the view that these final vowels are the morphophonological expression of the category-defining heads *n* and *v* (Msaka 2019). Following Kramer (2014; 2015) the head *n* hosts noun classification features in addition to its nominalizing function—specifically, the features [±Animate] and [±Human]. This makes *n* the morphosyntactic locus of the core noun classes proposed in the previous section, and therefore the nominal final vowels the morphophonological expression of this locus.[11] This correspondence is given in (22).

(22) a. $n_{[+\text{Animate, }+\text{Human}]} \Leftrightarrow$ *-i*
b. $n_{[\pm\text{Animate, }-\text{Human}]} \Leftrightarrow$ *-o*

Having established a concrete proposal for the structure of nominal stems, a number of key issues remain. Of primary importance is the fact that core noun class as expressed by the final vowel and the noun class expressed by the prefix can diverge. While there is a strong connection between having the final vowel *-i* and being a class 1 noun, there are a sizable number of nouns formed with *-i* that fall into other classes. Msaka (2019) shows that 73% of nouns in Chichewa ending in *-i* are in class 1, with the remaining 27% being distributed among the other classes. We can see this divergence in Xhosa as well: the noun in (23) has a class 7 prefix, but the denotation of the noun is a human and the final vowel takes the corresponding *-i* form.

(23) i-si-thiml-i
CL7-CL7-sneeze-NFV.ANIM
'A severely sneezing person' Xhosa (Mletshe 2019)

Similarly, *inanimate* nouns taking inanimate final vowel *-o* generally fall into a more heterogeneous set of classes rather than only the expected class 9 or class 7 (Msaka 2019: 158,

[11] Note that this categorizing head need not have a morphological realization in a given language; Fongang (2022) proposes that a null *n* houses animacy in Grassfields Bantu languages, which lack a final vowel on nouns.

table 5.3). So, we again face the issue that we cannot straightforwardly determine prefixal noun class based on the semantic animacy of the noun or the form of the final vowel.

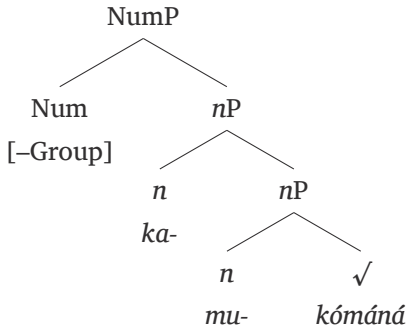
5 Obscuring the core: Stacking

Our way into a solution to these issues builds on Fuchs & van der Wal's (2022) analysis of derived locatives, diminutive, and augmentative nouns in Bantu. There is variation across Bantu in whether derivational prefixes related to these functions *replace* the original class prefix (not shown), or *stack*, as shown with the pair of Shona nouns in (24):

(24) a. mu-kómáná
CL1-boy
'boy'
b. ka-mu-kómáná
CL12-CL1-boy
'tiny boy' Shona (Déchaine et al. 2014)

Fuchs & van der Wal (2022) argue that, even in many cases where stacking is not apparent in the overt morphophonological expression of a given noun, these nouns can underlyingly have a "stacked" structure, where multiple *n*s combine to derive a nominal form (see also Kramer 2015: 208). This is schematized in the tree in (25) with the example from (24b).

(25) *Stacked diminutive structure (cf. Fuchs & van der Wal 2022: examples 47 and 57)*

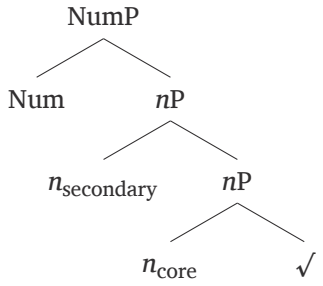


Building on this idea, we propose that nouns in Bantu contain stacked nominalizing heads: first a *core* noun class projection that houses the features [±Animate] and [±Human], which is then modified by a *secondary* noun class, which as shown in (26) is the realization of a second *n*P.[12]

[12] While the current paper was under review, a partially converging proposal was advanced by Carstens (2026) on the basis of agreement resolution with conjoined nouns in a variety of Bantu languages, especially Xhosa. We share with Carstens the idea that noun classes related to humanness/animacy are closer to the root, with additional genders being stacked on top—an idea that, in turn, can be traced back to Kramer (2014) in general, and to Mletshe (2019) and Fuchs & van der Wal (2022) for Bantu specifically. The proposal we develop here for the nature of core noun class features differs significantly from Carstens', however: we propose a specific morphophonological correlate of core

This is analogous to the structure for diminuatives in (25), where two *n*Ps are stacked on after the other.

(26) *Nominal structure of core and secondary noun class*



While the stacked diminutives in (25) have two layers of *n*P each headed by a class prefix, we propose that the innermost *n* head is in fact the suffixal final vowel;[13] any prefixes express additional layers of structure. This approach builds on Fuchs & van der Wal (2022), who suggest in their footnote 7 that final vowels may represent the lowest layer of a layered *n* structure, and Mletshe (2019: 24, figure 2), who treats the final vowel as an affix that derives a noun stem out of a verb root, and assumes that the prefixal class marker adds an additional N layer on top of the stem. As we will discuss in more detail below, we assume that nearly every Bantu nominal involves a minimally stacked structure.[14]

Interestingly, we are unaware of cases where an overt class 1 prefix stacks inside a secondary class—and note that Fuchs & van der Wal (2022) observe a similar gap in Swahili and Rangi augmentatives and diminutives stacking: while augmentative and diminutive class prefixes generally stack on top of inner noun class, they simply replaced class 1/2 prefixes. Investigating whether there is a true gap for class 1/2 prefixes stacking beneath other class prefixes is a promising line of future research.

---

noun class in the final vowel, and we consider a broader set of empirical facts that motivates a featurally-encoded person-animacy hierarchy—a connection which is explicitly rejected by Carstens (2026).

[13] While we have identified the final vowel as the morpohphonological locus of core noun class in certain cases, we do not expect *all* nouns to have such an expression. One reason, as mentioned in footnote 11, is an all-out absence of such an exponent in a given language. Another reason can come down to different flavors of *n* within a language: The particular *n* that expresses the final vowel is associated with deverbal noun derivation. We can surmise that other types of n_{core} may not have an overt exponence, while still hosting those core noun class features. This would be the same type of situation as we see with, say, nominalizing derivational morphology in English: *-ness* can nominalize adjectives (e.g. *redness*), while *-er* can nominalize verbs (e.g. *runner*). These are both instances of *n*, but have distinct functional profiles and distinct morphophonological forms.

[14] We also find cases of overtly stacked core and secondary prefixes that support this idea. For example, Xala (1996) documents a number of cases in Zulu where a noun is derived from one class to another while keeping both prefixes:

(i) ubu-n-ja
14-9-dog
'dog-like behavior, despicable act' (Xala 1996: 50)

Let us now consider a few key example cases given in (27), all with the same root *khohlel* ‘cough’, but differing in the specification of final vowel and class prefix. The form in (27a) represents the “typical” case, where the animate final vowel and class 1 prefix align, (27b) shows a misalignment such that the animate final vowel combines with a class 7 prefix, and finally (27c) which, like (27a), shows an alignment—but this time between the inanimate final vowel and the class 7 prefix.

(27) a. u-m-khohlel-i
CL1-CL1-cough-NFV.ANIM
‘a coughing person’
b. i-si-khohlel-i
CL7-CL7-cough-NFV.ANIM
‘a coughing person’ (presumably pejorative)
c. i-si-khohlel-a
CL7-CL7-cough-NFV.INAN
‘phlegm’ Xhosa (Mletshe 2019)

When the animacy of the final vowel and noun class align as in (27a) and (27c), we assume that there is a second *n* stacked over n_{core}P that lacks its own class feature and is spelled out with the appropriate allomorph depending on the feature specification of n_{core}. That is, class 1 in the case of [+Animate, +Human], class 9 in for [+Animate, –Human], or class 7 for [–Animate, –Human]. A main reason to assume that these basic cases involve stacking—rather than, say, a discontinuous morpheme realized as the prefix + final vowel—is that there are cases in which prefixal *n* is systematically absent. Notably, as **Table 1** illustrates, class 1a across the Bantu languages lacks a noun class prefix but otherwise behaves like a class 1 noun; similarly Msaka & Biberauer (2024) shows that some deverbal nouns can be formed without a class prefix. We therefore take the presence of a prefix to correspond to a stacked *n* head above n_{core}, and the absence of a prefix to reflect an absence of the higher *n* projection.[15]

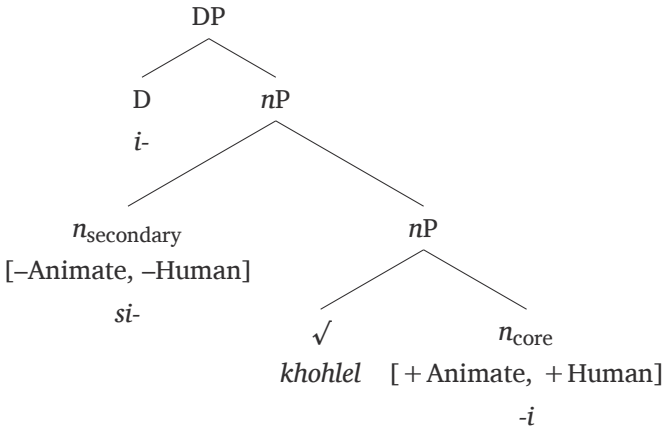
With examples like (27b), where the final vowel and class prefix are misaligned—in this case the final vowel appearing in the animate form and the prefix surfacing in the canonically inanimate class 7—we propose that the stacked *n* bears its own class feature.[16] The distinct features

[15] As far as we can tell, however, nothing fundamental would change if these basic cases did turn out to be a discontinuous, non-stacked *n*.

[16] A reviewer asks: How does noun class assignment work in these cases, where there is a non-local relationship between secondary noun class and the root? We point to the idea of gender assignment as developed in Kramer (2014; 2015), and also Hammerly (2019), where the insertion of denotations (and morphophonological forms) can be conditioned on the wider morphosyntactic context. This allows for another pathway to assignment other than selection under sisterhood.

on each subsequent *n* are spelled out as expected. This is schematized with the tree in (28), where we follow Visser (2008) in assuming that "augment" of the prefix is the realization of D in Xhosa.[17]

(28) *Stacked nominal structure with isikhohleli 'coughing person' in Xhosa*



The same approach can apply to all possible misalignments between core noun class (as expressed by a final vowel, found in the patterns of agreement, or deduced semantically) and prefixal noun class: nouns falling into class 3/4 or 5/6 based on the secondary class of the prefix always contain n_{core} with features [+ Animate, + Human] if human, [±Animate, –Human] if non-human. This means that all nouns in these classes, at least underlyingly, have a stacked structure with distinct feature sets. We can then explain the pervasive animacy hierarchy effects across Bantu languages, which occur even with nouns that fall outside of classes 1/2, 7/8, and 9/10: all nouns are specified for [±Animate, ±Human], so these features can be available in the morphosyntactic computation of agreement and other phenomena.

6 What remains

The primary proposal we defended in this squib is that, in order to capture pervasive animacy-hierarchy effects, all nouns in Bantu languages must be specified for *core noun class*, resulting in every noun falling into the category HUMAN, NON-HUMAN ANIMATE, or INANIMATE. The hierarchy is encoded by the features [±Animate, ±Human]; in cases where these features align with noun class, they are expressed by a predictable final vowel combining with class 1/2, 7/8, and 9/10 class prefixes and agreement, (contra Carstens 2026: who rejects a grammaticalized role for the animacy hierarchy). We further proposed that these features are encoded on the

[17] Another type of mismatch involves instrumental nominalizations, which in some Bantu languages also take the *-i* suffix. In Xhosa, for example, instrumental nominalizations can be formed by the same two *n* heads as in (28), but are interpreted as inanimate instruments (Mletshe 2010). As a reviewer points out, our analysis of *-i* as + Animate and + Human seems at odds with this use and would potentially require more stacking to derive instruments from underlying agents. As we noted in fn. 14, we do in fact see cases of noun-to-noun derivation via multiple prefixes; since class 1a typically has no overt morphology, we find it plausible that this type of stacking may in fact occur here, though we set these cases aside for future investigation.

nominalizing head *n*. Cases of misalignment between a noun's core feature specification versus class as expressed by the class prefix are due to the stacking of multiple *n*Ps with distinct features, in line with the proposal of Fuchs & van der Wal (2022) for Bantu diminutives, augmentatives, and locatives. Evidence for the universal specification of animacy features comes from a wide range of animacy-sensitive effects in agreement, including anti-agreement, animacy override, and agreement with conjoined subjects. The underlying logic was this: if there are morphosyntactic *effects* of animacy, then there must be a morphosyntactic *representation* for animacy.

We see this proposal as a foundation for pushing ahead and testing theories of noun class in Bantu languages. More details are needed in a number of areas, and we recount two of them here and give a sense of direction.

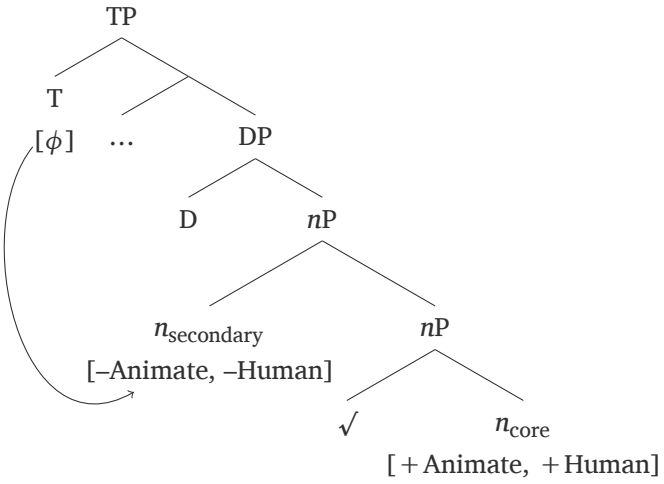
First, how are other classes represented? We proposed a specific feature representation for classes 1/2, 7/8, and 9/10 with the features [±Animate, ±Human]. Classes 11 and beyond are likely associated with particular features as well, such as those that encode the diminutive, augmentative, or locative. However, the encoding of classes 3/4 and 5/6 are less clear. One possibility, based on the fact that 5/6 is associated with liquids and other miscellaneous things (i.e. ABSTRACT THINGS), and 3/4 with trees/plants (i.e. CONCRETE THINGS), is that these categories could be derived by adding in more core noun class features as schematized in (4). The synchronic shakiness of these semantic associations could be due to semantic bleaching, with the system starting out as strongly based in the core semantics, with idiosyncratic cases slowly increasing over time.

Indeed, this process of bleaching is discussed at some length in Corbett (1991: 72–74) and references therein in the context of loanword adaptation in Bantu. Loanwords are overwhelmingly assigned to a noun class on the basis of the morphophonological properties of the borrowed words. While there are also documented semantic effects, most commonly, loanwords are assigned to the class within a language that happens to lack a prefix in the singular. This allows speakers to adapt words without changing the morphological properties of the noun (i.e., there is no class prefix to be found on the borrowed word, so it is put in the class that lacks a prefix). However, loanwords can be borrowed into other classes if their initial sound segments happen to line up with one of the existing noun class prefixes. Corbett suggests that borrowings are one of the possible catalysts for the semantic bleaching of noun classes, where the system becomes less semantically based and more phonologically based as loanwords enter a given class.

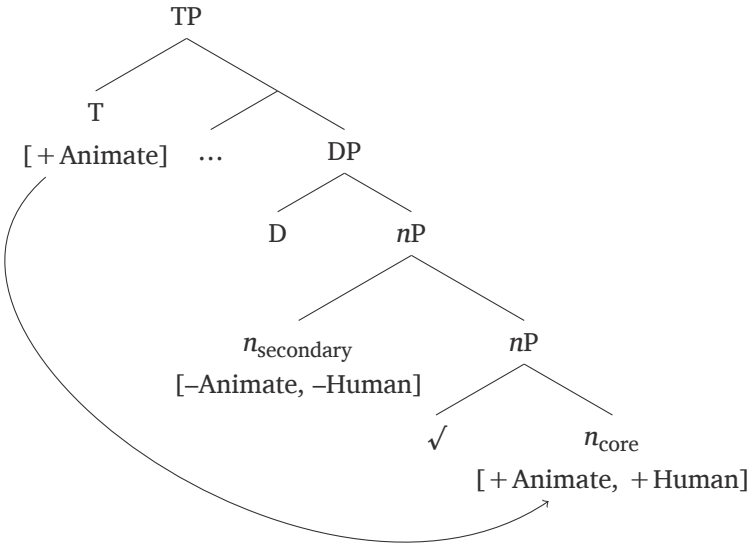
Second, how does the computation of the various agreement phenomena access core noun class, and ignore the noun class as expressed by the class prefix? For the phenomena we have discussed, two different mechanisms are likely at play. For something like animacy agreement, where a probe is sensitive to properties of the core noun class that are obscured by stacking, some sort of persistent probing mechanism (e.g. Béjar & Rezac 2009; Deal 2015; Hammerly 2021) that allows a probe to continue to search for a more highly specified version of some feature (such as [Human]) after encountering a less specified version (such as [Animate]), could capture the

range of patterns we find across Bantu. Differences in the sensitivity of phi-probes—both within and across languages—yield the variation in attested effects. For example, in a language like Zulu, where phi-agreement for subjects and objects always tracks secondary noun class, a simple "flat" phi-probe would find the closest phi-features of any type, on the outer *n*, as in (29a). Swahili, by contrast, would have a more articulated phi-probe; the presence of a [+Animate] feature on the probe could cause the probe to search past the outer *n* to find a [+Animate] on the n_{core}, as in (29b).[18] Nyaturu, which has agreement with subjects from all noun classes, but only animate objects, might have a subject phi-probe as in (29a) and an object probe as in (29b).

(29) a. *Unrelativized (flat) ϕ probe: $n_{secondary}$ goal*



b. *ϕ probe relativized to [+Animate]: n_{core} goal*



[18] We remain agnostic as to the particular mechanics of the probing process that would lead to the probe-goal relationship in (29b), including whether the probe would first interact with $n_{secondary}$. However, see Hammerly (2021) for a formal account of how to handle agreement in a feature system with bivalent values.

Patterns with coordinate structures likely have at least a partially different source; here, the internal structure of the coordination yields a single set of features—sensitive to the core animacy distinctions—that is visible to a higher probe. Much therefore depends on the process of resolving feature conflicts between the two conjoined nouns, which goes beyond the scope of the current paper (though see Adamson & Anagnostopoulou (2025) for a recent of account of gender resolution in Greek, and Carstens (2026) for an account of Xhosa).[19]

[19] As a reviewer notes, there are also many different agreement resolution strategies for conjoined nouns within the Bantu language family (see e.g. Marten 2000: on the multiple strategies present within Swahili). Just as we see variation for probe sensitivity in basic agreement, we expect that only some resolution strategies will implicate core noun class.

Abbreviations

AA alternative agreement, ANIM animate, CL noun class, DJ disjoint marker, FV final vowel, INAN inanimate, NFV nominalizing final vowel, OM object marker, PL = plural, SG = singular, SM subject marker, VFV verbalizing final vowel.

Noun class is indicated by the corresponding number; local persons are glossed with 1SG/PL or 2SG/PL. Other abbreviations follow the Leipzig glossing rules.

Acknowledgements

We would like to thank audiences at the University of Göttingen and in the Fall 2022 edition of LING 521 at UBC for feedback.

Competing interests

The authors have no competing interests to declare.

References

Adamson, Luke James & Anagnostopoulou, Elena. 2025. Gender features and coordination resolution in Greek and other three-gendered languages: Implications for the crosslinguistic representation of gender. *Linguistic Inquiry*. 1–50. DOI: https://doi.org/10.1162/ling_a_00543

Baier, Nico. 2016. Unifying anti-agreement and wh-agreement. Ms., University of California Berkeley.

Béjar, Susana. 2003. *Phi-syntax: A theory of agreement*. Toronto, ON: University of Toronto dissertation.

Béjar, Susana & Rezac, Milan. 2009. Cyclic agree. *Linguistic Inquiry* 40(1). 35–73. DOI: https://doi.org/10.1162/ling.2009.40.1.35

Bokamba, Eyamba Georges. 1976. *Question formation in some Bantu languages*. Bloomington, IN: Indiana University dissertation.

Carstens, Vicki. 2019. Noun class, gender, and the workings of agree: Evidence from agreement with conjoined subjects in Xhosa. Ms. Southern Illinois University.

Carstens, Vicki. 2026. *The grammar of gender: Insights from Bantu*. Ms. University of Connecticut. DOI: https://doi.org/10.1007/s11049-026-09702-x

Cheng, Lisa. 2006. Decomposing Bantu relatives. In Davis, Christopher & Deal, Amy Rose & Zabbal, Youri (eds.), *Proceeings of NELS 36*. Amherst, MA: Graduate Linguistics Student Association.

Contini-Morava, Ellen. 2008. Human relationship terms, discourse prominence, and asymmetrical animacy in Swahili. *Journal of African Languages and Linguistics* 29. 127–171. DOI: https://doi.org/10.1515/JALL.2008.008

Corbett, Greville & Mtenje, Alfred. 1987. Gender agreement in Chichewa. *Studies in African Linguistics* 18(1). 1–38. DOI: https://doi.org/10.32473/sal.v18i1.107479

Corbett, Greville G. 1991. *Gender*. Cambridge: Cambridge University Press.

Creider, Chet A. 1975. The semantic system of noun classes in Proto-Bantu. *Anthropological linguistics* 17(3). 127–138.

Deal, Amy Rose. 2015. Interaction and satisfaction in φ-agreement. In Bui, Thuy & Ozyildiz, Deniz (eds.), *Proceedings of NELS 45*. Amherst, MA: Graduate Linguistics Student Association.

Déchaine, Rose-Marie & Girard, Raphaël & Mudzingwa, Calisto & Wiltschko, Martina. 2014. The internal syntax of Shona class prefixes. *Language Sciences* 43. 18–46. DOI: https://doi.org/10.1016/j.langsci.2013.10.008

Denny, J. Peter & Creider, Chet A. 1986. The semantics of noun classes in Proto-Bantu. In Craig, Colette G. (ed.), *Noun classes and categorization: Proceedings of a symposium on categorization and noun classification*. 217–239. Amsterdam: John Benjamins. DOI: https://doi.org/10.1075/tsl.7.15den

Diercks, Michael. 2009. Subject extraction and (so-called) anti-agreement effects in Lubukusu: A Criterial Freezing approach. In *Proceedings of Chicago Linguistics Society*, vol. 45. 55–69.

Diercks, Michael. 2010. *Agreement with subjects in Lubukusu*. Washington, DC: Georgetown University dissertation.

Fongang, Leonel Tadjo. 2022. *Towards a unified theory for noun class agreement in Grassfields Bantu*. Handout, ComSyn, Leiden University.

Fuchs, Zuzanna & van der Wal, Jenneke. 2022. The locus of parametric variation in Bantu gender and nominal derivation. *Linguistic Variation* 22(2). 268–324. DOI: https://doi.org/10.1075/lv.20007.fuc

Hammerly, Christopher. 2019. Limiting gender. In Mathieu, Éric & Dali, Myriam & Zareikar, Gita (eds.), *Gender and noun classification*, 93–118. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/oso/9780198828105.003.0005

Hammerly, Christopher. 2020. *Person-based prominence in Ojibwe*. Amherst, MA: University of Massachusetts Amherst dissertation.

Hammerly, Christopher. 2021. A set-based representation of person features: Consequences for AGREE. In Farinella, Alessa & Hill, Angelica (eds.), *Proceedings of NELS 51*, 189–198. Amherst, MA: Graduate Linguistics Student Association.

Hammerly, Christopher. 2023. A set-based semantics for person, obviation, and animacy. *Language* 99(1). 38–80. DOI: https://doi.org/10.1353/lan.2023.0005

Harley, Heidi & Ritter, Elizabeth. 2002. Person and number in pronouns: A feature-geometric analysis. *Language* 78(3). 482–526. DOI: https://doi.org/10.1353/lan.2002.0158

Henderson, Brent. 2007. The syntax of agreement in Bantu relatives. In Hoyt, Frederick & Seifert, Nikki & Teodorescu, Alexandra & White, Jessica & Wechsler, Stephen (eds.), *Texas linguistics society 9: Morphosyntax of underrepresented languages*, vol. 9, 167–184. Austin, TX: CSLI Publications.

Henderson, Brent. 2009. Anti-agreement and [Person] in Bantu. In Matondo, Masangu & Laughlin, Fiona Mc & Potsdam, Eric (eds.), *Selected proceedings of the 38th annual conference on African linguistics*. 173–181. Somerville, MA: Cascadilla Proceedings Project.

Henderson, Brent. 2013. Agreement and person in anti-agreement. *Natural Language and Linguistic Theory* 31. 453–481. DOI: https://doi.org/10.1007/s11049-013-9186-8

Hendrikse, A. P. & Poulos, George. 1992. A continuum interpretation of the Bantu noun class system. In Gowlett, Derek F. (ed.), *African linguistic contributions: Presented in honour of Ernst Westphal*, 195–209. Cape Town: Via Afrika.

Hualde, Jose Ignacio. 1989. The strict cycle condition and noncyclic rules. *Linguistic Inquiry* 20(4). 675–680.

Hyman, Larry & Duranti, Alessandro. 1982. On the object relation in Bantu. In Hopper, Paul J. & Thompson, Sandra A. (eds.), *Syntax and semantics*, vol. 15, 217–239. Leiden: Brill. DOI: https://doi.org/10.1163/9789004368903_013

Julien, Marit. 2002. *Syntactic heads and word formation*. New York: Oxford University Press. DOI: https://doi.org/10.1093/oso/9780195149500.001.0001

Katamba, Francis. 2004. Bantu nominal morphology. In Nurse, Derek & Philippson, Gérard (eds.), *The Bantu languages*, 103–120. London: Routledge. DOI: https://doi.org/10.4324/9780203987926

Kinyalolo, Kasangati Kikuni Wabongambilu. 1991. *Syntactic dependencies and the spec-head agreement hypothesis in Kilega*. Los Angeles, CA: University of California, Los Angeles dissertation.

Kramer, Ruth. 2014. Gender in Amharic: A morphosyntactic approach to natural and grammatical gender. *Language Sciences* 43. 102–115. DOI: https://doi.org/10.1016/j.langsci.2013.10.004

Kramer, Ruth. 2015. *The morphosyntax of gender: Evidence from Amharic*. Oxford: Oxford University Press.

Lockwood, Hunter T. & Macaulay, Monica. 2012. Prominence hierarchies. *Language and Linguistics Compass* 6(7). 431–446. DOI: https://doi.org/10.1002/lnc3.345

Maho, Jouni. 1999. *A comparative study of Bantu noun classes*. Götebourg, Sweden: Acta Universitatis Gothoburgensis.

Marten, Lutz. 2000. Agreement with conjoined noun phrases in Swahili. In Beck, Rose-Marie (ed.), *Afrikanistische arbeitspapiere: Swahili forum vii*, vol. 64, 75–96. Köln: Institut für Afrikanistik, Universität zu Köln.

McGinnis, Martha. 2005. On markedness asymmetries in person and number. *Language* 81(3). 699–718. DOI: https://doi.org/10.1353/lan.2005.0141

Mletshe, Loyiso. 2017. Deverbal nominals derived from intransitive state verbs in isiXhosa: A Generative Lexicon approach. *South African Journal of African Languages* 37(1). 29–39. DOI: https://doi.org/10.1080/02572117.2017.1316924

Mletshe, Loyiso. 2019. The path to verbal bodily diagnostics in isiXhosa. *Stellenbosch Papers in Linguistics Plus (SPiL Plus)* 58. 17–31. DOI: https://doi.org/10.5842/58-0-835

Mletshe, Loyiso Kevin. 2010. *Deverbal nominals in Xhosa*: Stellenbosch: Stellenbosch University dissertation.

Msaka, Peter K. & Biberauer, Theresa. 2024. Noun class prefixes aren't nominalisers: Insights from deverbal nominalisation in Chichewa. In Banerjee, Ema & Bosch, Núria & Cooper, Steph & Haket, Nina (eds.), *Cambridge occasional papers in linguistics*, vol. 16, 229–262. Cambridge: Faculty of Modern and Medieval Languages and Linguistics.

Msaka, Peter Kondwani. 2019. *Nominal classification in Bantu revisited: The perspective from Chichewa*. Stellenbosch: Stellenbosch University dissertation.

Pesetsky, Jonathan. 2019. Animacy is a presupposition in Swahili. In Clem, Emily & Jenks, Peter & Sande, Hannah (eds.), *Theory and description in African linguistics: Selected papers from the 47th Annual Conference on African Linguistics*, 555–570. Berlin: Language Science Press.

Riedel, Kristina. 2009. *The syntax of object marking in Sambaa: A comparative Bantu perspective*. Leiden: Universiteit Leiden dissertation.

Riedel, Kristina & Taji, Julius. 2022. Animacy-based concord in Chiyao. *South African Journal of African Languages* 42(2). 190–199. DOI: https://doi.org/10.1080/02572117.2022.2094039

Rugemalira, Josephat M. 2025. Noun classes and agreement. In Marten, Lutz & Hurst-Harosh, Ellen & Kula, Nancy & Zeller, Jochen (eds.), *Oxford guide to the Bantu languages*, 133–142. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/oso/9780198808343.001.0001

Taraldsen, Knut Tarald & Medová, Lucie Taraldsen & Langa, David. 2018. Class prefixes as specifiers in Southern Bantu. *Natural Language & Linguistic Theory* 36(4). 1339–1394. DOI: https://doi.org/10.1007/s11049-017-9394-8

Visser, Marianne. 2008. Definiteness and specificity in the isiXhosa determiner phrase. *South African Journal of African Languages* 28(1). 11–29. DOI: https://doi.org/10.1080/02572117.2008.10587298

Wald, Benji. 1975. Animate concord in Northeast Coastal Bantu: Its linguistic and social implications as a case of grammatical convergence. *Studies in African Linguistics* 6(3). 267–314.

Wasike, Aggrey. 2006. *The left periphery, wh-in-situ and A-bar movement in Lubukusu and other Bantu languages*. Ithaca, NY: Cornell University dissertation.

Xala, Zweli Effort. 1996. *The noun prefix in Zulu: Intra and inter phenomena*. KwaZulu-Natal: University of Zululand MA thesis.