Disassembling and Reassembling Pronouns: A Case Study of Bosnian/Croatian/Montenegrin/Serbian

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Abstract: This paper explores the building blocks of personal pronouns in order to provide a unified model of the form, locus, and function of ϕ- and case features of pronouns that will account for their morphological distinctions and agreement properties. The proposal bears on the notion of hierarchy within the syntactic projections in the nominal domain, such that the base (*n*P) is dominated by ϕ-features (in the order: Person, Number, Gender), which are in turn dominated by a case hierarchy. The structure of pronouns proposed in this paper is shown to have consequences for pronominal morphology: third-person pronouns resemble nouns in that both consist of an *n*P base, dominated by number-, gender-, and case-bearing functional heads. First- and second-person pronouns, on the other hand, are also based on an *n*P, but they crucially lack grammatical gender. Both types of pronouns differ from nouns in lacking a lexical root (Moskal 2015b; Smith et al. 2019). The proposal for their morphological realization, based on the assumption that the *n*P and gender-bearing phrase are phases, will account for various types of suppletion found in their paradigms, as well as the similarities and differences in the spell-out of strong pronouns and clitics.

1. Introduction

This paper provides an in-depth investigation of the building blocks that construct the system of personal pronouns in Bosnian/Croatian/Montenegrin/Serbian (BCMS). It provides a unified analysis of the form, locus, function, and morphological realization of ϕ- and case features of pronouns that accounts for their similarities and distinctions. The model strives to integrate pronouns into a general theory of the morphosyntactic representation of nominal categories through capturing the hierarchies in their feature structures as well as those in their functional spine, ultimately offering a proposal on their spell-out and exploring its further consequences. Personal pronouns in BCMS show morphological distinctions along two dimensions: *local person* (first- and second-person) pronouns vs. third-person pronouns on one hand, and strong pronouns vs. clitics on the other. The form of local person pronouns varies depending on the person, number, and case of the pronoun. The shape of third-person pronouns varies depending on their gender, number, and case, while

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they share the same base. The latter property is something that morphologically relates them to nouns, although they have different sets of inflectional endings, with the pronouns sharing the adjectival inflectional paradigm.

While local person pronouns show suppletion for number and case, third-person pronouns undergo only case suppletion. Assuming that pronouns are not simple bundles of features but may instead have a relatively complex internal structure, this indicates that there are differences between local person and third-person pronouns that should receive an adequate explanation. Another relevant point of their divergence relates both to their referential and morphological properties: Local person pronouns lack gender distinctions but can nevertheless control[1] gender agreement, while third-person pronouns do show gender distinctions and correspondingly control gender agreement.

Furthermore, clitics differ from strong pronouns in their morphological realization, as they basically present the reduced form of the pronoun, either lacking the base (third person) or lacking stress and an additional morpheme (local person). For instance, the accusative forms of third-person singular pronouns are *njega* '3SG.M.ACC', *nje* '3SG.F.ACC', and *njega* '3SG.N.ACC', while the corresponding clitics are realized by a portmanteau morpheme expressing gender, number, and case, omitting the base *n(je)-*, i.e., *ga*, *je*, and *ga*. In addition to this, clitics are more flexible than strong pronouns in their reference, as they allow for both animate and inanimate referents. Such differences in reference should ultimately also be taken into account.

In modeling the internal structure of a pronoun, the analysis proposed in this paper will rely heavily on the notion of syntactic *hierarchy*. Building on the insights of Déchaine and Wiltschko (2002); Weerman and Evers-Vermeul (2002); Neeleman and Szendrői (2007); Barbiers et al. (2009); Moskal (2015b); Smith et al. (2019); and van Urk (2018), I will argue that the hierarchy of pronominal extended projection encompasses three zones: a base (*n*P), followed by ϕ-features (PhiP), followed by case (KP). I will then depart from these proposals by arguing that the PhiP further decomposes into three projections, such that PERSON precedes NUMBER, which in turn precedes GENDER, reflecting the markedness hierarchy of these features (Greenberg 1963; Noyer 1992). This will be represented by person being the lowest and grammatical gender being the highest projection of the three. Within KP, following Caha (2009), the features stand in an entailment relationship such that UNMARKED (NOM) case precedes DEPENDENT (ACC, GEN) case, which is encoded before OBLIQUE (DAT) case.

[1] I use the term "to control agreement" in the sense of Corbett (2006: 4), who distinguishes between agreement *controllers*, elements that determine the agreement (e.g., subject NPs), and agreement *targets*, elements that change in form depending on the controllers' properties.

Finally, the highest projection in each of the (lower) zones, i.e., the *n*P and the gender phrase (cLP), will delimit a locality domain by being a phase.

The proposal will ultimately arrive at a unified account of nominal categories: They are built on a basic category *n*P. Nouns and pronouns differ in that the *n*P in nouns consists of a nominalizing head *n* that categorizes a lexical root, while the *n*P in pronouns consists of the nominalizer alone (combining the proposals of Moskal 2015a, 2015b; Moskal and Smith 2016; Smith et al. 2019; and van Urk 2018). Clitics lack *n*P altogether, and its phasal status is what this difference partially results from.

Additionally, the analysis will provide a means to distinguish between local person and third-person pronouns: Both categories encode person, number, gender, animacy, and humanness (without the need to phonologically realize them); however, they differ in their extended projections. The absence of a particular feature (e.g., gender on local person pronouns, or person on nouns) will be modeled by the lack of the relevant projection. A distinguishing feature of third-person pronouns is the *grammatical* gender they bear.

In addition to providing a spell-out model for strong pronouns and clitics, the analysis accounts for the suppletion patterns of pronouns by treating suppletion as contextual allomorphy in the sense of Moskal (2015a, 2015b) and Moskal and Smith (2016). I will, however, complement these accounts by integrating gender in this model and arguing that relativized locality should be abandoned in favor of strict cyclic domains such as those announced above. As a result, the locality domain delimited by the gender projection will account for the suppletion patterns of the third-person pronouns, in particular the distinction between their nominative and non-nominative forms.

This paper is structured as follows. Section 2 presents the paradigms of personal pronouns, scrutinizing their morphological and referential properties. Some challenges that this set of data poses to previous analyses of pronominal structure and contextual allomorphy are presented in section 3. The proposals on how pronouns should be disassembled to their atomic parts is provided in section 4, while section 5 outlines a proposal on their morphological realization. Subsequently, section 6 inspects some consequences of the analysis for clitics and demonstratives, and section 7 concludes.

2. Data

2.1. The Morphology of BCMS Pronouns

Let us start by considering the basic set of personal pronouns in BCMS in Table 1. Local person pronouns show person, number, and case distinctions.

Third-person (3π) pronouns share a common stem *on-*,[2] but their endings reveal a three-way gender distinction: masculine (M), feminine (F), and neuter (N).

Table 1. Personal pronouns in BCMS

	1SG	2SG	1PL	2PL	3SG.M/N	3SG.F	3PL
NOM	*ja*	*ti*	*mi*	*vi*	*on-Ø/-o*	*on-a*	*on-i*.M/*-e*.F/*-a*.N
GEN	*m-en-e*	*t-eb-e*	*na-s*	*va-s*	*nje-ga*	*nj-e*	*nj-ih*
DAT	*m-en-i*	*t-eb-i*	*na-ma*	*va-ma*	*nje-mu*	*nj-oj*	*nj-ima*
ACC	*m-en-e*	*t-eb-e*	*na-s*	*va-s*	*nje-ga*	*nj-u*	*nj-ih*
INST	*m-n-om*	*t-ob-om*	*na-ma*	*va-ma*	*nj-im*	*nj-om*	*nj-ima*
LOC	*m-en-i*	*t-eb-i*	*na-ma*	*va-ma*	*nje-mu*	*nj-oj*	*nj-ima*

Each nominative local person pronoun has a unique form; they have suppletive forms in the plural (here, I use the term *suppletion* to indicate a single lexical item associated with two phonologically unrelated forms; Moskal 2015a). In environments other than nominative singular, the first-person pronoun uses a suppletive stem (*m-*), while the stem of the second-person pronoun does not change in non-nominative environments. I will assume that the stem encodes person and number features. First- and second-person pronouns share the same set of case exponents, which is how I will interpret their affixes. Local person pronouns thus realize their base, consisting of person (π) and number (#),[3] by means of one morpheme, separately from their case features.[4]

[2] Also, the stem of distal demonstratives; see §6.2.

[3] Throughout the paper, I will be using the following abbreviations: 1 "first person", 2 "second person", 3 "third person", SG "singular", PL "plural", M "masculine gender", F "feminine gender", NOM "nominative", GEN "genitive", DAT "dative", ACC "accusative", INST "instrumental", LOC "locative", CLT "clitic", π "person", # "number", CL "class", HUM "human", ANIM "animate", INANIM "inanimate", PRTCPT "participant", SPKR "speaker", AUX "auxiliary", PRT "participle", UNM "unmarked", DEP "dependent", OBL "oblique", and DU "dual".

[4] I will consider the morphemes *-en-* and *-eb-* in the singular to be the so-called "support morphemes" (Cardinaletti and Starke 1999), which distinguish the "strong" pronoun forms from their clitic counterparts. The clitic forms of those pronouns are the simple *me* and *te*, without this extension.

The paradigm of the third-person pronouns is essentially adjectival, i.e., other than the stem *on-*, which they all share, their suffixes are the same as the suffixes of adjectives, realizing gender, number, and case features. The nominative suffixes on third-person pronouns are identical to the gender and number suffixes on nouns. Masculine nouns belonging to declension class I end with a consonant (presumably having the -Ø suffix), just like the masculine pronoun (cf. *on-*Ø '3-M.SG.NOM' vs. *dečak-*Ø *'boy*-M.SG.NOM'); feminine nouns typically end in *-a*, just like the feminine pronoun (cf. *on-a* '3-F.SG.NOM' vs. *devojk-a* 'girl-F.SG.NOM'); and neuter nouns end in *-o* (or *-e*, which will be put aside), just like the neuter pronoun (cf. *on-o* '3-N.SG.NOM' vs. *kril-o* 'wing-N.SG.NOM'). In the non-nominative cases, all third-person pronouns' stems undergo suppletion.

Finally, clitic forms of pronouns (represented in boldface in Table 2) are available in genitive, dative, and accusative case. They are essentially morphologically reduced forms of strong pronouns. This reduction is achieved in different ways with local person and third-person pronouns. Local person clitics realize person, number, and case, without the support morpheme. Third-person clitics are the spell-out of the gender, number, and case feature bundle (arguably also person, judging from the feminine form that includes the morpheme *-j-*), leaving the pronominal base out.

Table 2. Clitics vs. strong pronouns in BCMS

	1SG	2SG	1PL	2PL	3SG.M/N	3SG.F	3PL
NOM	*ja*	*ti*	*mi*	*vi*	*on-*Ø*/-o*	*on-a*	*on-i/-e/-a*
GEN	***m**-en-**e***	***t**-eb-**e***	***na-s***	***va-s***	*nje-**ga***	*nj-**e***	*nj-**ih***
DAT	***m**-en-**i***	***t**-eb-**i***	***na-ma***	***va-ma***	*nje-**mu***	*nj-**oj***	*nj-**ima***
ACC	***m**-en-**e***	***t**-eb-e*	***na-s***	***va-s***	*nje-**ga***	*nj-**u***	*nj-**ih***
INST	*m-n-om*	*t-ob-om*	*na-ma*	*va-ma*	*nj-im*	*nj-om*	*nj-ima*
LOC	*m-en-i*	*t-eb-i*	*na-ma*	*va-ma*	*nje-mu*	*nj-oj*	*nj-ima*

2.2. Additional Explanatory Desiderata: Agreement

Apart from the differences in their morphology, local person pronouns and third-person pronouns differ in how they control agreement. A peculiar property of local person pronouns in BCMS is that they can control natural

gender agreement. Specifically, agreement present at their agreement targets reflects the notional gender of their referent, as indicated in (1). This is true only of masculine and feminine genders. Neuter gender cannot be used in agreement with first and second person, (2).

(1) a. Ja sam došla / *došao.
1SG AUX.1SG came.F.SG came.M.SG
'I (female referent) came.'

b. Mi smo došle / *?došli.
1PL AUX.1PL came.F.PL came.M.PL
'We (female referents) came.'

(2) a. *Ja sam došlo.
1SG AUX.1SG came.N.SG
Intended: 'I (neuter) came.'

b. *Mi smo došla.
1PL AUX.1PL came.N.PL
Intended: 'We (neuter) came.'

In contrast, third-person pronouns control agreement in accordance with their grammatical gender, (3). We know that this gender is purely formal since a pronoun that refers to an inanimate entity can control agreement, (4). It should be noted that examples like (4) are quite marginal and only acceptable if the inanimate pronoun expresses some kind of focus or contrast, as is the case here; otherwise, strong pronouns generally almost exclusively allow animate interpretation (see §6.1).

(3) a. On je došao. b. Ona je došla.
3SG.M AUX.3SG came.M.SG 3SG.F AUX.3SG came.F.SG
'He came.' 'She came.'

(4) Ovo je moj novi bicikl.
this AUX.3SG my new bicycle.M.SG
On je mnogo brži od starog.
3SG.M AUX.3SG much faster.M.SG than old
'This is my new bicycle. It is much faster than the old one.'

The distinctions above pose the question of whether natural gender is a part of a featural representation of a strong pronoun. Depending on that, it calls for an investigation of how it participates in agreement. On the other

hand, the formal grammatical gender of the third-person pronouns also raises the issue of its formal representation as well as similarities to, and differences from, natural gender.

2.3. Summary and Main Questions

To sum up, although local person pronouns and third-person pronouns are similar in their feature inventories, encoding person, number, gender (overtly at least on third person), and case, they differ in the ways these features are morphologically represented. While number and case are present as categories on all of them, local person pronouns lack overt gender features. Number and person seem to be able to form a morphological unit to the exclusion of gender and case (pronominal base of local person pronouns), or form a unit together with case (resulting in a third-person clitic), while gender can form a morphological unit with number and case (and as such be realized either as a clitic or as an agreement affix). Finally, local person pronouns can control gender agreement without having an overt gender feature, which poses the question of how such features are encoded in the grammar.

The main question that the rest of the paper will aim to answer concerns the structural encoding of phi-features and case features on (pro)nouns and their realization, especially such that the patterns of suppletion can fall out from their internal syntactic structure. In particular, we want to distinguish between the number- and case-conditioned suppletion of local person pronouns and case-triggered suppletion only in non-nominative environments with third-person pronouns. If it is true that this can be made to follow from their syntactic structure, this should then straightforwardly capture the morphological realization of clitic forms as a natural consequence of the spell-out process. Finally, I also aim to uncover the structural encoding of properties responsible for allowing natural gender agreement.

3. Previous Literature

The bulk of previous literature has converged on the idea that, being nominal categories themselves, pronouns can project complex internal syntactic structure similar to that of regular noun phrases. For instance, for Postal (1969) and Elbourne (2005), pronouns realize a DP without a noun, which equates them to definite articles. The encoding of phi-features and case features on (pro)nouns and their realization has been subject to much debate. Some very specific proposals were advanced by Déchaine and Wiltschko (2002); Weerman and Evers-Vermeul (2002); Neeleman and Szendrői (2007); Barbiers et al. (2009); Moskal (2015b); Smith et al. (2019); van Urk (2018); and especially for Slavic, by Progovac (1998); Franks (2013); Despić (2017); Stegovec

(2019); Caha (2021); and Ruda (2021a). The consensus is mostly that a pronoun consists of a base, followed by ϕ-features, topped off by case projections.

(5) nominal base > phi-features > D > case

Yet, while Déchaine and Wiltschko (2002) do not really consider case and specifics of morphological realization, Weerman and Evers-Vermeul (2002), Neeleman and Szendrői (2007), and Barbiers et al. (2009) do so to some extent, utilizing the proposed pronominal skeleton to account for other phenomena, such as pro-drop or pronominal copying.

Based on the discussion on the presence of the DP layer in the nominal structure of BCMS in §3.1 below, I will argue that the D-layer from the structure in (5) need not be assumed for BCMS. I will otherwise be following the accounts listed above in terms of the general idea that the pronominal structure encompasses a pronominal base, phi-features, and case; however, a novel contribution is going to consist in the definition of locality domains that these delimit within the nominal structure. Another departure from this general approach is going to involve the way in which features are represented; namely, I will assume that they have complex internal structure in the form of feature hierarchies in the sense of Harley and Ritter (2002). Finally, I will analyze the suppletion patterns in terms of contextual allomorphy in the sense outlined in §3.2 below, arguing that the locality domains defined by the syntactic projections that build the nominal phrase play a vital role in deriving the resulting patterns.

3.1. The NP/DP Debate

Across the Slavic family, similarities and differences between pronominal elements have been addressed most actively within the debate on whether nominal categories project a DP (Progovac 1998; Cardinaletti and Starke 1999; Despić 2011; Arsenijević 2014; Runić 2014; Puškar-Gallien 2019; Ruda 2021a; Bešlin 2023; and Jovović 2024). Arguments have been advanced in favor of nominals being strictly NPs (Bošković 2008; Runić 2014), strictly DPs (Arsenijević 2014, 2018a), or for a parametrized view under which pronouns involve more structure as they include a DP layer, while lexical nouns are NPs (Bešlin 2023). I will take an intermediate position: Pronominal elements in BCMS are essentially what Déchaine and Wiltschko (2002) term *PhiP*s.

Let me briefly elaborate on why many currently available diagnostics for the categorial status of nominals are at best inconclusive for BCMS. Déchaine and Wiltschko (2002) argue that pronouns come in three sizes: NP, PhiP, and DP. In order for a pronoun to qualify as a Pro-DP, it must fulfill a particular set of criteria. First, a pronoun needs to allow overt lexical material to appear next to it, as in *we linguists* in English, where the noun *linguists* is arguably the

overt realization of the NP, and *we* of D. Pronouns in BCMS allow for other NP material to co-occur with them (e.g., *mi lingvisti* 'we linguists'). By analogy with English, this overt material can be treated as the overt realization of the NP part. However, overt material can also appear in front of the pronoun in BCMS. Bošković (2008), Runić (2014), and Arsenijević (2017) note that pronouns in BCMS can be modified by adjectives and other modifiers such as demonstratives.[5]

(6) a. Dobri ti me retko zove/zoveš.
good.M.SG 2SG me rarely call.3SG/2SG
'The good you call(s) me rarely.' (Arsenijević 2014)

b. Ja volim onog tebe kojeg poznajem.
1SG love.1SG that.M.SG you who know.1SG
'I love that you that I know.'
(cf. pronouns in Russian; Pereltsvaig 2007: 28)

As observed by Arsenijević (2017), the mere fact that pronouns can be modified in BCMS and in English is not enough to claim that there is indeed a DP layer involved in the structure. Under most of the proposals that postulate a DP layer in the structure of the pronoun, it is assumed that pronouns are generated in N and move to D, collecting the inflectional morphology along the way from the Agr(eement) projections that stand in between, e.g., Progovac (1998) (see also Franks and Pereltsvaig 2004). Furthermore, BCMS pronouns allow an overt noun to follow them, and assuming that the overt noun also originates in N, the two should be mutually exclusive. Conversely, overt material such as adjectives and demonstratives can precede the pronoun, (6), which would also be unexpected if pronouns are located in D.[6] Finally, a potential confound related to examples such as (6a) was recognized by Arsenijević (2014), who argues that there are also semantic restrictions on the adjectives that can modify pronouns. In particular, he argues that only non-restrictive adjectives can combine with pronouns. Adjectives that are used restrictively can combine with pronouns only if the pronouns themselves semantically shift in interpretation, acquiring the interpretation of nouns (i.e., from <e> to <e, t>, as is evident in the different agreement possibilities that such a pronoun can show demonstrated in (6a)).

Furthermore, a Pro-DP behaves as an R-expression, while a Pro-PhiP behaves as a bound variable, and as such it may license sloppy readings. Clitics

[5] See Pereltsvaig (2007, esp. p. 28) for Russian and see also Arsenijević (2017, 2018a) and references therein for the claim that Polish and Slovak disallow modification of pronouns.

[6] See Despić (2011: 201–22) for a detailed discussion.

in BCMS are argued to allow for sloppy identity readings (see Runić 2014), which would qualify them as PhiPs. There are nevertheless contexts in which strong pronouns can also be interpreted as bound variables, thus counting as PhiPs, e.g., focus in (7b).[7]

(7) Clitics and strong pronouns as bound variables

a. Svaki predsednik$_i$ misli da ga$_i$/??njega$_i$ svi vole.
every president thinks that him.CLT/him everyone love
'Every president$_i$ thinks that everyone loves him$_i$.'

b. Svaki predsednik$_i$ misli da samo njega$_i$/*ga$_i$
every president thinks that only him/him.CLT
svi vole.
everyone love
'Every president$_i$ thinks that everyone loves only him$_i$.'
(Despić 2011: 243)

The final diagnostic that should distinguish Pro-DPs from Pro-PhiPs is their distribution in a clause: a DP cannot be used as a predicate but only as an argument, while a Pro-PhiP can be either an argument or a predicate. In BCMS, both strong pronouns and clitics can be used as arguments, (8). Strong pronouns can also function as predicates, (9), which would make them PhiPs (see Ruda 2021a for Polish). However, note that the very claim that DPs cannot function as predicates, put forward by Longobardi (1994) and followed by Déchaine and Wiltschko (2002), has been disputed in the literature (see, for instance, Pereltsvaig 2007: 21f. and references therein for Slavic).

(8) Video sam tebe/te.
seen AUX.1SG 2SG.ACC/CLT.2SG.ACC
'I saw you.'

(9) Postala sam ti.
become.PRT.F.SG AUX.1SG 2SG.NOM
'I became you.'

I thus conclude that even though the diagnostics for the structural size of a nominal phrase proposed by Déchaine and Wiltschko (2002) do not conclusively uncover the category of BCMS pronominal elements, the closest generalization that the tests above offer is that the presence of the DP category cannot be safely

[7] See also Ruda (2021b) and Stegovec (2019) for additional conflicting data from Polish and Slovenian.

confirmed from them. In the absence of positive evidence for the DP layer, I will assume that it is absent, thereby treating pronominal elements as PhiPs.[8]

3.2. Allomorphy

While Moskal (2015b); Smith et al. (2019); and van Urk (2018) do specifically focus on morphological realization of pronouns and their suppletion patterns, I argue that they (i) do not provide sufficient detail about the nature of the pronominal base, (ii) rely on both categorical and relative locality, and (iii) cannot account for gender and its place in the structure. Moskal (2015a, 2015b); Moskal and Smith (2016); Smith et al. (2019); and McFadden (2018) reduce suppletion to the allomorphy of the stem. Allomorphy itself is considered to result from quite a local process in the sense that only the features that are somehow close to a node may affect the spell-out of that node (see, e.g., Moskal and Smith 2016 and references therein). Consider the following example of allomorphy in the nominal domain. It has been observed that both number and case can trigger suppletion of the stem of a pronoun (cf. *ja* vs. *na-* below). In contrast, nouns can supplete only for number (*človek* 'man, human' vs. *ljudi* 'people' below), but case-driven suppletion of a nominal root is virtually unattested in nouns.[9]

Table 3. Suppletion in the nominal domain

N	*ja*	*mi*
G	*mene*	***nas***
A	*mene*	***nas***
D	*meni*	***nama***

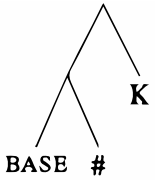
N	*človek*	***ljudi*** / **človeci*
G	*človeka*	***ljudi*** /**človeka*
A	*človeka*	***ljude***
D	*človeku*	***ljudima***

[8] An alternative way to approach this debate would be to apply the tests advanced by Cardinaletti and Starke (1999), who argue for a tripartite distinction between strong, weak, and clitic pronouns. Without going into further detail, I will note that their tests are also inconclusive and point the reader to Despić (2011, esp. 240f.); Ruda (2021a, 2021b); and Bešlin (2023) for detailed discussions on why this is the case.

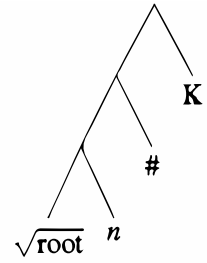
[9] Note that a challenge to this claim can be found in Slovenian. While the equivalent noun *človek* 'man' uses the equivalent suppletive stem *ljudje* in the plural, in the dual the non-suppletive stem is used in the nominative (*človeka* 'two men'). To make matters more complicated, the suppletive stem is, however, used in the dual in the genitive case (*ljudi*) and locative case (*ljudeh*), whereas in the other cases, the non-suppletive stem is used (*človeka*.ACC.DU, *človekoma*.DAT.DU, and *človekoma*.INST.DU). I thank the editors for pointing this out. For more information on the quirks of the Slovenian dual, see Marušić and Žaucer (2021).

In order to account for why this is the case, Moskal (2015a, 2015b) and Smith et al. (2019) assume the structural distinction in (10–11). Nouns (11) differ from pronouns (10) in having a lexical root and a nominal categorizing head *n*. They are both similar in having a number projection above their base (#) and the K(ase) head above it. The K-head of nouns is argued to be too far away to be able to affect the realization of the nominal root (11), while with pronouns it is sufficiently local to the pronominal base. This is implemented by the proposal that nouns include a locality boundary in their structure such that only number, but not case, can affect the realization of the root.[10] The #-head and K-head are sufficiently local to the *pronominal base* in order to be able to create a context for the insertion of its Vocabulary Item, while the realization of the *root of a noun* can only be affected by the #-head. Case is too far away.

(10) Pronouns (Smith et al. 2019):



(11) Nouns (Moskal 2015b):



The cause of the allomorphy is taken to be the cyclicity of the *n*-head. With nouns, *n* is a cyclic node, triggering the Vocabulary Insertion (VI) of the root. Since Vocabulary Insertion can be affected by the structure up to the next cyclic node and one node above that, the only other projection that is able to affect the VI of the nominal root is the first node above the cyclic node, i.e., the #-head. Pronouns, however, lack such a cyclic domain (having no root and no *n*), which makes both number and case local enough to be able to condition the realization of the pronominal base, which may result in both case- and number-driven suppletion. Furthermore, even though *n* will trigger insertion into its complement, the realization of the *n* node itself will be triggered by the next higher cyclic node, which is how McFadden (2018) models stem al-

[10] Here and below in my analysis, I will partially adopt the right-branching structures and notations from Moskal (2015a, 2015b); Moskal and Smith (2016); Smith et al. (2019); and McFadden (2018), which indicate the linear order of the realization of the individual morphemes. The type of operation responsible for the correct linear realization of the given morphemes (head-movement, roll-up movement, or morphological merger) is in no way crucial for the proposal below and, as such, will be left as a task for future work.

lomorphy in Tamil nouns (which only show allomorphy in nominative vs. non-nominative contexts, just like BCMS pronouns).

Within this line of thought, there is a notable lack of consensus on the nature of the pronominal base. Even though van Urk (2018) explicitly treats it as an *n*P, for Moskal (2015a) it is a D, while Smith et al. (2019) call it generally a root. For all of them, its exact nature is less important than the fact that this projection is the locus of person features. Even though he treats the pronominal base as *n*, van Urk (2018) has little to say about the parallelism between a pronoun and a noun, i.e., assuming that a noun would involve an additional lexical root, the *n* would still be able to bear person features, the consequences of which have not been further explored.

All of these proposals also assume some notion of dynamic determination of locality domains (Bobaljik and Wurmbrand 2005 and Bošković 2014). For instance Moskal (2015a, 2015b) focuses only on locality domains in the morphological realization of syntactic structures, arguing that each node is potentially cyclic, but whether or not it will become a cyclic node depends on the nodes that are introduced above it (or rather realized after it). Adopting a similar approach, van Urk (2018) and McFadden (2018) assume that the *n*-head is a categorical cyclic domain (so does Moskal), but in addition to that, the cyclicity of other nodes above it is still assumed to be dynamic. To this, McFadden also introduces an additional empty node in Tamil above the #-node, which is also argued to be cyclic. Thus, in this line of research, it seems that the determination of locality is not exactly unified, and as such still open to debate.

Finally, since these proposals focus on the interaction of person, number, and case, gender is largely left aside. Having seen above that in BCMS the realization of gender is also important for deriving the suppletion patterns of pronouns, the assumptions on its position and realization should be made more explicit. In my analysis below, I will adopt the basic premises of this strand of research in terms of how allomorphy functions. However, I will argue that the domains that determine the spell-out of syntactic nodes and affect morphological processes are definite, defined by specific syntactic heads (e.g., the *n*-head and the gender-feature-bearing head).

4. Disassembling Pronouns: The Internal Structure

This section introduces the idea that the complete structure of a (pro)noun in BCMS includes three general zones: nominal base > ϕ-features > case. I will argue that each of these contains additional structure within it. In particular, ϕ-features are going to further branch into person > number > gender, in that order, while case will include a sub-hierarchy of unmarked > dependent > oblique case. Finally, pronouns differ from nouns in lacking a lexical root, thus being a purely functional category.

4.1. Base

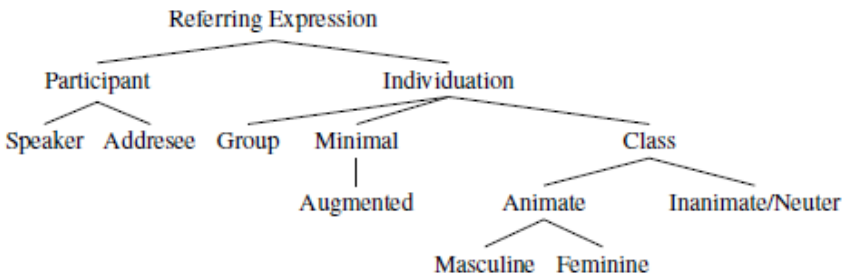
Following van Urk (2018), Déchaine and Wiltschko (2002), and van Koppen (2012), I take the base of the pronoun to be crucially nominal. Specifically, I will assume that the pronominal base is formed by the same nominalizing head *n* that builds nouns by categorizing a root (Marantz 2001, 2007; Arad 2003, 2005; Kramer 2015). The pronominal base will furthermore crucially differ from that of nouns in lacking a lexical root (see Moskal 2015a, 2015b; Smith et al. 2019). The pronominal *n*P thus consists solely of the categorizing head *n*.

4.2. ϕ-features

4.2.1. Feature Hierarchies

For the purposes of the formal representation of person, number, and gender, I will adopt the premises of Harley and Ritter's (2002) *feature geometry* approach, which views ϕ-features as consisting of hierarchically organized building blocks.[11]

(12) Structural hierarchy of ϕ-features (Harley and Ritter 2002: 486):



Accounts distributing these features across the nominal spine have mostly focused on two types of features, person and number, or number and gender (see Béjar and Řezáč 2009; van Koppen 2012; Puškar 2018; Puškar-Gallien 2019; and Caha 2021). I will offer a unified proposal for structural encoding of the hierarchy in (12) within the nominal phrase.

[11] Harley and Ritter (2002) draw an analogy with phonological features, arguing that the structured geometric representation of morphological features, modeled after that of the phonological ones, may help constrain pronoun and agreement systems. Preminger (2014) argues for a geometric representation of features in the syntax as a necessary alternative to the (un)interpretable features. See these works for more detail and further motivation.

Following Béjar and Řezáč (2009) (see also McGinnis 2005; Georgi 2012, 2013; Nevins 2007; Preminger 2014; Deal 2015; Kalin 2019), I assume that person features can be further decomposed such that the complexity of representation increases from the third towards the first person. Specifically, I assume that first person comprises the features [π, Participant, Speaker], (13), second person lacks the [Speaker] feature, (14), and third person is represented by the person [π] node alone, (15). An important property of these subfeatures is that they stand in an entailment relationship to each other, whereby having a [PRTCPT] or a [SPKR] node entails bearing the dominating [π] node as well.[12] Consequently, if the root node π is absent, the entire πP is absent from the structure, which will be the case with lexical nouns.

(13) $\begin{bmatrix} \pi \\ | \\ \text{PRTCPT} \\ | \\ \text{SPKR} \end{bmatrix}$ (14) $\begin{bmatrix} \pi \\ | \\ \text{PRTCPT} \end{bmatrix}$ (15) $[\pi]$

A similar manner of decomposition was applied to number by Harley and Ritter (2002), who represent its subparts by features such as [Group, Minimal, Augmented]. Since BCMS has a simple binary number system, for the purposes of developing an initial analysis, I will adopt the representation of the plural number proposed by Preminger (2014), as in (16). Singular will be treated as the absence of number (Nevins 2011 and Pesetsky 2013; see Despić 2017 for a claim that singular number is unmarked with respect to plural in Serbian). Technically, #P will be postulated only in case it specifies plural number, i.e., #P is not projected if the noun is singular (Kratzer 2007).

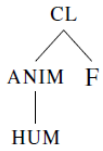
(16) $\begin{bmatrix} \# \\ | \\ \text{PL} \end{bmatrix}$

As the final member of the ϕ-set, I argue that gender features can receive a corresponding geometric treatment (see also Puškar 2018; Puškar-Gallien, forthcoming). Harley and Ritter (2002: 514) acknowledge that the internal structure and organization of gender would have to vary across languages, due to the great variation languages display in gender and class features in general. Adopting Harley and Ritter's intuition that gender features include animacy and humanness specification in their structure, I propose an adaptation

[12] Henceforth, the features will be presented by a variation of the following bracketed notations: [π[PRTCPT[SPKR]]].

of the hierarchy that will capture gender in BCMS. According to Willer-Gold et al. (2016) and Arsenijević (2018b), feminine is argued to be the most marked gender in BCMS, masculine being the semantically unmarked and neuter the syntactically unmarked one. Combining this with the feature geometry approach, I propose that gender in BCMS is represented in terms of a general gender node CLASS, a marked feminine value [F], and an animacy[13] and humanness specification, represented as [ANIM] and [HUM] nodes (see also Hammerly 2018; Foley and Toosarvandani 2019; Caha 2021; and Adamson and Anagnostopoulou 2024, 2025 for similar proposals for French, Zapotec, Czech, and Greek). My proposal for the hierarchy of gender, which is able to capture the distinction between natural and grammatical gender, is given in (17).

(17)



This approach to gender provides a direct link between gender and the features [ANIM] and [HUM] as subparts of its specification. The sub-hierarchy in (17) can be used to represent any of the three genders in BCMS and their nuances. For instance, nouns of feminine natural gender will involve all the available nodes in the hierarchy: [CL[ANIM[HUM]][F]], while grammatically feminine nouns will lack the animate and human specification, leaving them with [CL[F]]. Nouns of masculine grammatical gender will only involve the [CL] node, signaling that they carry an unmarked gender feature. Masculine natural gender will involve the [ANIM] and [HUM] features as well, accounting for the general bias in language under which the default referent of human nouns is male (see Arsenijević et al. 2022 for a justification of this claim based on experimental evidence). Finally, the absence of the [CL] node signals the absence of gender, thereby modeling neuter gender. Markedness of gender may thus be expressed in terms of the number of nodes it contains: feminine natural gender being the most marked one, grammatical masculine the least.

Differences between natural and grammatical gender thus fall out from their internal feature structure: they both involve the general [CL] node but

[13] Based on syncretism in inflectional paradigms and certain agreement properties, two *subgenders have been identified* in BCMS within the category of masculine: animate and inanimate (see, e.g., Corbett 1991 for an overview), which justifies positing [Animate] as a subfeature of gender. The difference in animacy among masculine nouns in BCMS leads to genitive-accusative syncretism in animate masculine nouns and nominative-accusative syncretism in inanimate nouns and to differences in agreement with nominal modifiers and relative pronouns.

differ in the rest of the feature inventory. Another difference between them will be in their syntactic distribution, as outlined in the following section.

4.2.2. Distribution of Features across the Nominal Spine

With respect to how morphosyntactically or semantically marked they are, ϕ-features have been argued to align according the implicational hierarchy given in (18), where the degree of markedness increases towards the right.[14]

(18) Implicational hierarchy of ϕ-features (Greenberg 1963; Noyer 1992):
Person > Number > Gender

I propose that (18), combined with Harley and Ritter's (2002) geometry in (12), translates into a hierarchy of syntactic projections, such that each feature type projects an independent XP. Person and number features have been argued to reside on two separate projections, such that person is lower than number (Moskal 2015b; Harbour 2016; Smith et al. 2019; and van Urk 2018). This is advocated particularly strongly by Harbour (2016), who argues that encoding person higher than number makes wrong predictions for possible and impossible pronoun inventories, both when it comes to their morphology and their interpretation.[15] Morphological evidence presented by Noyer (1992); Trommer (2002); Harbour (2007, 2008, 2016); and Arregi and Nevins (2012) indicates that, if pronouns can be morphologically decomposed into person, number, and case, number comes in between person (pronominal base) and case. Under a Mirror-Theoretic view of the interaction of syntax and

[14] Noyer (1992) argues for this hierarchy of ϕ-features based on Impoverishment patterns that morphemes in certain languages show. For instance, he proposes the following hierarchy for Arabic: 1 > 2 > PL > DUAL > F, based on which features get deleted first in the case of markedness accumulation (Noyer 1992: 46). Specifically, Arabic shows gender distinctions on pronouns and agreement affixes in local person in the second person but not in the first. Since it is presumably the feminine feature that gets deleted in the context of first person (if it were the other way round, first-person feminine would be syncretic with third-person feminine), Noyer's interpretation of this is that markedness filters, which determine what combinations of features Impoverishment rules will apply to, consider the features not on an individual basis but on the basis of their position in the markedness hierarchy.

[15] As the focus of this paper is the morphological encoding of person features, their semantics will largely be put aside. If semantics were to be taken into consideration, the property of *person* would quickly expose its further complexity. See Gruber (2013); Ackema and Neeleman (2013, 2018); and Harbour (2016) for different proposals. These argue that mapping between the morphological and semantic realization of person features is not always direct and, as such, it will be left for further research.

morphology (Baker 1985; Brody 2000; Brody and Szabolcsi 2003), this indicates a lower base position of person with respect to number.

Based on this, following recent proposals of Ruda (2021a) for Polish and Stegovec (2019) for Slovenian, I take person to head its own projection, πP, above the *n*P. I propose that number is then introduced by a further projection that I will label as #P.[16]

As grammatical gender forms a portmanteau with number and case, I assume it is local to these two features (for more on case, see the following section). Additional evidence for the separation and ordering of person and gender comes from Slovenian first-person plural pronouns, which have a feminine (*m-e* '1-F.PL.NOM') and a masculine (*m-i* '1-M.PL.NOM') version. As the final item on the scale in (18), I thus propose that grammatical gender is represented by a phrase above #P, the CLP. If this phrase includes only the CL node, the result is a masculine pronoun, but if the [F] sub-node is present, a feminine pronoun will result.

Recall that I argued that BCMS makes a distinction between natural and grammatical gender, based on the agreement patterns of local person pronouns, which do not show gender distinctions but nevertheless control gender agreement. Assuming that their lack of overt gender distinctions indicates a lack of grammatical gender, and assuming that natural gender is also represented syntactically in the same form of gender hierarchies as in (17), the question arises where natural gender is located. I argue that the locus of natural gender is the *n*P.

For Harley and Ritter (2002), a pronoun is essentially a "Referring Expression", as the root node of their tree suggests. Given that I take the *n*P to be the root node, I equate that with the projection responsible for referentiality as well as individuation of a (pro)noun. Individuation is necessary for reference taking and quantification (see, e.g., Sichel and Toosarvandani 2021), which differentiates nouns from other lexical categories (Baker 2003: 94–189). Under the Distributed Morphology assumptions, what additionally differentiates nouns from other lexical categories is the categorizing head *n* (as opposed to *v* or *a* for verbs and adjectives). Assuming that individuation is somehow connected to it, we should define how this property can be structurally represented.

Sichel and Toosarvandani (2021, 2024) take individuation to be introduced by a separate head σ. This head is a precondition for having person features, since their role is also inevitably connected to referentiality, as well as animacy and humanness. As argued above, properties such as human and animate do not necessarily depend on the kind of person that is present in a pronoun in BCMS, but they have more to do with the expression of natural gender. I therefore propose that individuation is basically an abstract prop-

[16] See, e.g., Ruda (2021a, 2021b) for arguments that PersP can be taken to introduce definite reference in languages without articles, such as Polish and BCMS.

erty of the *n*P and is tied to having the features [anim] and [hum]. Since these cannot appear without being connected to class in my system, I assume that a cl node can optionally be attached to the *n*P.[17] This results in the possibility of having natural gender on the *n*P.[18]

Both grammatical and natural gender thus represent types of gender available in the language. Both have geometric representation and can be targeted by Agree operations.[19] Grammatical gender is simpler and less marked by virtue of including fewer features. Finally, grammatical gender gets targeted by spell-out rules on nominal elements, while natural gender can only be spelled out as a result of agreement.

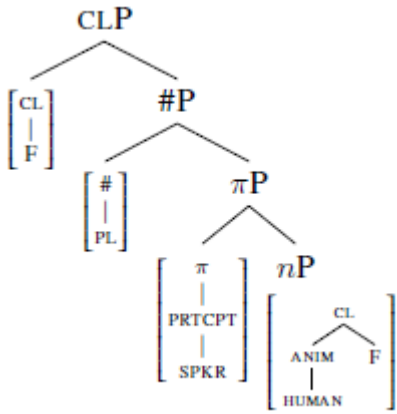
To sum up, (19) represents the complete structure of a pronoun in BCMS in the most complex case (1pl with a natural feminine gender). This structurally encodes the hierarchy from (18) above, with an additional benefit of providing a way to distribute the Harley and Ritter (2002) hierarchy across the pronominal spine (see van Koppen 2012 and Fassi Fehri 2000).

[17] Formally, under the assumption that grammatical gender as a head in the syntactic structure projects a gender phrase (clP), natural gender can be assumed to be an adjunct to the *n*P.

[18] Gender as a category can be dispersed across the nominal spine (Steriopolo and Wiltschko 2010; Pesetsky 2013; Landau 2016; Kučerová 2018; Steriopolo 2018a, 2018b; Fassi Fehri 2018; and Puškar 2018; but see Arsenijević 2021 for an alternative view). Here I follow Puškar (2018) and the argumentation therein for a low position of natural gender and depart from Kramer (2015), who places both natural and grammatical gender on *n*.

[19] Since the process of agreement is not the main focus of the paper, I will note that I assume that agreement is carried out by the operation Agree (Chomsky 2001) in the standard Minimalist terms, where an unvalued Probe searches for a valued Goal to satisfy its missing features. An additional assumption that I make, following Béjar and Řezáč (2009), is that ϕ-features can be probed for separately, to which I add the proposal that the Probe for gender can be parametrized such that it does not only look for gender features in general, but for gender features of a particular kind: natural gender (in which case the Probe will search for both gender and animacy and humanness), or grammatical gender (in which case it will not look for features [anim] and [hum], but only for [cl]). As a consequence, the Probe will be able to agree with both types of gender proposed in (17). For pronouns, this will have the consequence that the Probe will be able to agree both in the natural gender of local person pronouns and with the grammatical gender of third-person pronouns. Further details of this approach and its consequences for patterns of hybrid agreement are explored in Puškar (2018) and Puškar-Gallien (2019).

(19)



Finally, the absence of a root-level feature (π, #, CL) is going to result in the absence of a feature-bearing phrase. As a consequence, singular number will be treated as the absence of number. Technically, #P will be postulated only in case it specifies plural number. Similarly, the absence of gender will be encoded as the absence of CLP, yielding neuter gender. Missing features will be realized by means of default exponents, as further elaborated in §5.[20]

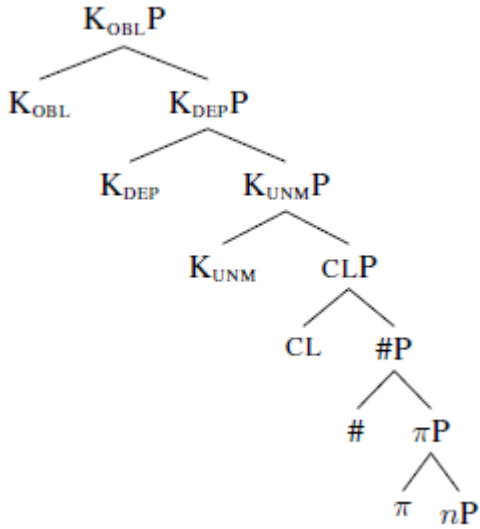
4.3. Case

Following Bittner and Hale (1996), Caha (2009), Neeleman and Szendrői (2007), Moskal (2015a, 2015b), and Smith et al. (2019), I assume that Case is introduced by a separate projection K(P), on top of the ϕ-feature bearing projections. K can have a complex structure that encodes Caha's (2009) *Case Hierarchy*: NOMINATIVE > ACCUSATIVE > GENITIVE > DATIVE > INSTRUMENTAL > COMMITATIVE. Smith et al. (2019) collapse this into a distinction between the *dependent case* (DEP, here encompassing ACC and GEN) and the *oblique case* (OBL,

[20] A reviewer wonders about feature co-occurrence restrictions, e.g., why person and grammatical gender do not co-occur. I envisage two possibilities. It may be assumed that the universal structure proposed in (19) is generally available, but not all languages will make use of all possibilities. For instance, while BCMS does not show gender distinctions on local person, and presumably lacks CLP with local person, Slovenian does contain this phrase and consequently distinguishes between masculine and feminine first person. Alternatively, we may assume grammatical gender to be universally present, but that gender gets deleted under Impoverishment in local person contexts, as suggested by Noyer (1992) for Arabic (see fn. 11 above). The latter option would have the benefit of accounting for the nominative vs. non-nominative suppletion on local person pronouns in the same way as third-person pronouns are accounted for in §5.2 below.

here DAT).[21] Nominative is modeled as the absence of case by Andrews (1982); Falk (1991); Bittner and Hale (1996); Taraldsen (1996); Neeleman and Weerman (1999); de Hoop and Malchukov (2008); McFadden and Sundaresan (2009); and Kornfilt and Preminger (2015).[22] I will follow McFadden's (2018) implementation, where nominative amounts to the absence of the case-bearing projection(s). This eliminates K_{UNM} from (19).

(20)



4.4. Interim Summary: Disassembled Pronouns

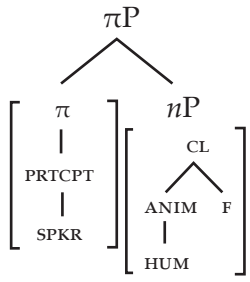
The complete structure of a pronoun given in (20) offers possibilities for parametrization, as not all pronouns will include all of the available nodes. Local person pronouns lack CLP in general, which models the lack of grammatical gender. Their singular forms also lack #P. The πP is projected, since they must have at the minimum the [PRTCPT] feature. The structures in (21–22) represent the first-person pronouns in the nominative case (hence the

[21] I will exclude instrumental and locative for the purposes of the current discussion. Locative is always syncretic with dative in BCMS, with the difference that it must be preceded by a preposition, hence it can be analyzed simply as a PP. An argument was advanced for instrumental by Milićev and Bešlin (2019). See Puškar-Gallien (forthcoming) for further consequences of this idea, among others that the PP introduces another locality boundary.

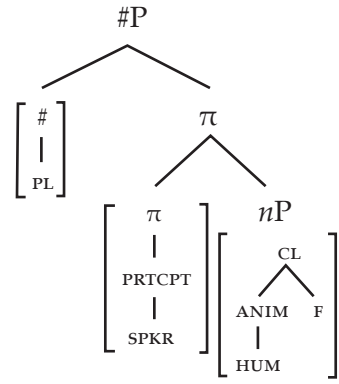
[22] Thanks to an anonymous reviewer for drawing my attention to this work.

lack of KP). The second person will differ from first person in lacking the feature [SPKR].[23]

(21) Singular 1st-person pronoun:



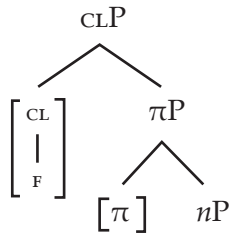
(22) Plural 1st-person pronoun:



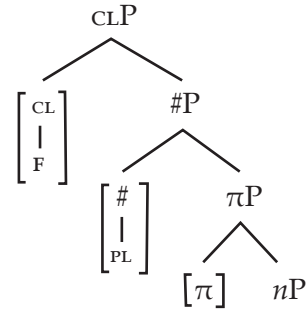
The proposed structures for third-person pronouns are presented in (23–24). As number is absent, in the singular their *n*P will be dominated by πP and CLP, which bears the [F] node for grammatically feminine nouns or just the [CL] node for masculine ones. In the plural, the CLP will be projected above the #P. The combination of these two phrases will define the inflectional affixes of the pronouns. The *n*P lacks features if the pronoun denotes an inanimate entity. With an animate (or human) referent, the *n*P will bear natural gender and number in the same manner it does with local person pronouns.

[23] A reviewer wonders about the relationship between features, i.e., how the model accounts for the plurality of local person, where first person plural is not exactly a plurality of persons, but rather a group formed around the speaker. One way of dealing with this would be to adopt Harley and Ritter's representation of number as including the features Minimal and Group, instead of simply # and PL. This would enable us to indicate the difference between a single referent (Minimal) and multiple referents (Group), and addition of other features such as Augmented would enable representing other options for quantification, such as dual, mass, collective, etc. Nothing in the account would change if this more precise denotation were accepted; however, the features # and PL were chosen for the sake of simplicity in the representation of the basic patterns.

(23) Singular 3rd-person pronoun:



(24) Plural 3rd-person pronoun:



5. Reassembling Pronouns: Morphological Realization

Adopting the general Distributed Morphology premise that syntactic nodes are realized postsyntactically by corresponding Vocabulary Items in the process of Vocabulary Insertion, two additional sets of assumptions necessary for a proposal on the morphological realization of pronouns must be briefly introduced, namely locality considerations and conditions on suppletion. As far as locality domains in the nominal phrase are concerned, I assume that the categorizing head *n* is a phase-head (Marantz 2001, 2007; Embick and Marantz 2008; and Embick 2010, 2021). I propose that an additional locality domain in the nominal phrase in Slavic is defined by the clP, as the final phrase that demarcates the ϕ-domain. These two phrases will trigger the spell-out of their complements. Otherwise, the derivation proceeds until all the numeration is spent and only then is the structure spelled out. As for suppletion, I will largely rely on the analysis of contextual allomorphy proposed by Moskal (2015a, 2015b), Moskal and Smith (2016), Smith et al. (2019), and McFadden (2018), who argue that it is reducible to the allomorphy of the stem. I will follow them in assuming that outward-sensitive allomorphy can only be triggered by nodes up until the next cyclic node and one node beyond that. I depart from them in assuming that cyclic nodes are phase nodes, thus eliminating the need for postulating separate syntactic and morphological locality domains. Inward-sensitive allomorphy will also play a role in the realization of case features (see Gribanova and Harizanov 2017 for the directionality of grammatically-conditioned allomorphy).

To sum up, the internal functional spine of pronouns involves three locality domains, defined by the nominalizing head *n* and the grammatical-gender introducing head cl. These also delineate the three domains of the nominal phrase: the lexical domain, ϕ-feature domain, and case domain. In the remainder of this section, we will examine how the morphology deals

with the output of the syntax in realizing the structures proposed above. As a reminder, Table 4 repeats the pronominal paradigms.

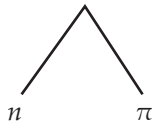
Table 4. Personal pronouns in BCMS

	1SG	2SG	1PL	2PL	3SG.M/N	3SG.F	3PL
NOM	*ja*	*ti*	*mi*	*vi*	*on-Ø/-o*	*on-a*	*on-i/-e/-a*
GEN	*m-en-e*	*t-eb-e*	*na-s*	*va-s*	*nje-ga*	*nj-e*	*nj-ih*
DAT	*m-en-i*	*t-eb-i*	*na-ma*	*va-ma*	*nje-mu*	*nj-oj*	*nj-ima*
ACC	*m-en-e*	*t-eb-e*	*na-s*	*va-s*	*nje-ga*	*nj-u*	*nj-ih*
INST	*m-n-om*	*t-ob-om*	*na-ma*	*va-ma*	*nj-im*	*nj-om*	*nj-ima*
LOC	*m-en-i*	*t-eb-i*	*na-ma*	*va-ma*	*nje-mu*	*nj-oj*	*nj-ima*

5.1. Spelling out Local Person Pronouns

As local person pronouns in their strong form carry pitch accent, I will assume that this is due to a lexical high tone (H), carried by their *n*, resulting in a falling accent (see Talić 2018 and references therein). This *n* is otherwise realized by a phonologically null exponent, unless in non-nominative case, where it is spelled out as the support morpheme *-en-/-eb-*.[24] As a result, singular nominative local person pronouns will be realized as in (25–28). Their *n*-node will carry the high tone, while the person features' realization depends on their internal complexity. Plural is realized by its exponent *-i*, and it triggers stem allomorphy.

(25) 1st SG NOM



[PRTCPT, SPKR]
ja

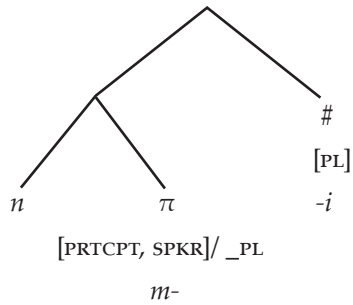
(26) a. [π, PRTCPT, SPKR] ⇔ *ja*

b. [π, PRTCPT] ⇔ *t*(*i*)

c. *n* ⇔ H

[24] I will also include the assumption that the *n* of local person pronouns must carry [HUM] and [ANIM] features. This can be thought of as an interface requirement, i.e., the derivations in which the *n* lacks these features will be filtered out at the interfaces by corresponding licensing conditions, in the sense of Kramer (2015).

(27) 1st pl nom



(28) a. [π, prtcpt, spkr] ⇔ *m-* / __X][25]

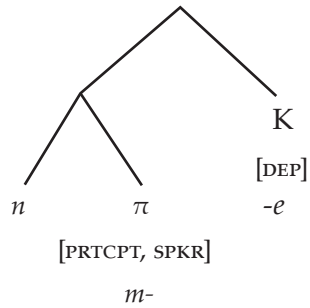
b. [π, prtcpt] ⇔ *v-* / __ #

c. [#] ⇔ *-i*

d. *n* ⇔ H

The presence of case other than nominative is implemented as the presence of the K-head above #, which can in turn affect the realization of the nodes below it. Example (29) illustrates a first-person pronoun in acc/gen (dependent) case in the singular. Recall that the second-person pronoun's base does not supplete for case. Its base will thus be pronounced by the exponent *t-* presented in (26b), to which the case suffix *-e* will be attached.

(29) 1st sg acc/gen



(30) a. [π, prtcpt, spkr] ⇔ *m-* / __X]

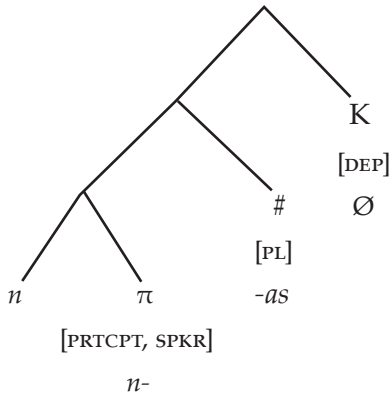
b. [dep] ⇔ *-e*

c. [obl] ⇔ *-i*

Last but not least, if the # head is present above π, both will be realized in the same cycle as case. I assume that K-projections trigger allomorphy on the number node, as in (32).

[25] The context for the first-person base allomorph *m-* is presented as a generalized "X]" in order to capture the idea that the allomorphy of this exponent is simply triggered by any XP above Pers, be it number or case (see McFadden 2018 for similar cases in Tamil). Indeed, the same allomorph is found in the context of dependent and oblique case in the singular (see (30a) and Table 1).

(31) 1st PL ACC/GEN



(32) a. [π, PRTCPT, SPKR] ⇔ *n-* / __ #, DEP

b. [#] ⇔ *-as* / __ DEP

c. [#] ⇔ *-am* / __ OBL

d. [K_{DEP}] ⇔ Ø / __ #

To sum up, (33–36) present the full list of VI rules for local person pronouns:

(33) a. *n* ⇔ H

b. *n* ⇔ *-en-* + H / __ SPKR, DEP

c. *n* ⇔ *-eb-* + H / __ PRTCPT, DEP

(34) a. [π, PRTCPT, SPKR] ⇔ *ja*

b. [π, PRTCPT, SPKR] ⇔ *m-* / __X]

c. [π, PRTCPT, SPKR] ⇔ *n-* / __ #, DEP

d. [π, PRTCPT] ⇔ *t(i)*

e. [π, PRTCPT] ⇔ *v-* / __ #

(35) a. [#] ⇔ *-i*

b. [#] ⇔ *-as* / __ DEP

c. [#] ⇔ *-am* / __ OBL

(36) a. [DEP] ⇔ *-e*

b. [OBL] ⇔ *-i*

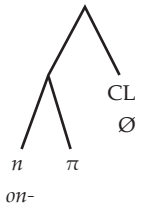
c. [DEP] ⇔ -Ø / __ #

d. [OBL] ⇔ -Ø / __ #

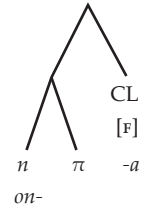
5.2. Third-Person Pronouns and Stem Suppletion

Recall that third-person pronouns include a gender phrase above the #P. Another difference from local person pronouns is the overt exponent of *n*, realized as the base *on-*. As a result, I postulate two different nominalizers, one deriving local person and the other one deriving third-person pronouns, which will be subject to corresponding licensing conditions at the interfaces, following Kramer (2015).[26] Focusing for now only on masculine and feminine pronouns, let us consider their postsyntactic content, represented in (37) and (38). In addition to their *n*, CL is also a cyclic node. It will be realized according to the gender features it bears, cf. (37), where it only contains the gender node of the hierarchy in (17), and (38), which contains an additional [F] node.

(37) 3rd M SG NOM:



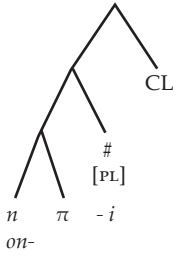
(38) 3rd F SG NOM:



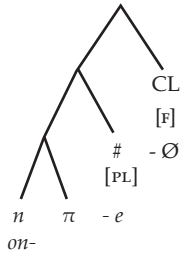
As for the plural, the base will retain its form, while the plural exponent will be affected by the presence of the [F] gender. I will assume that the markedness constraints active in the language delete the [F] gender feature in the presence of person and number, yielding a null feminine plural exponent (see Despić 2017).

[26] I assume that the nominalizer for third person can only be licensed under the presence of the CL-node (see Kramer 2015 for more detail on licensing conditions on nominalizers).

(39) 3rd M PL NOM:

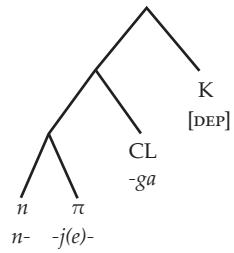


(40) 3rd F PL NOM:

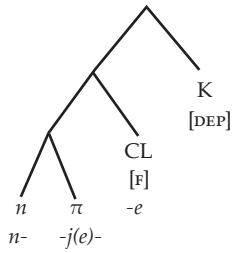


Adding the K head in order to introduce case features places this head into a position from which it can trigger stem allomorphy. Since CL is a cyclic node, the first node above is still available for morphological operations. It can thus create a context for the suppletion of the *n*-base. As a result, only K_{DEP} can affect its spell-out, but not any head above it. Thus, the base *n* will be realized as the allomorph *n-* in the presence of the first case-bearing head, K_{DEP}. Due to containment, if any additional case projection is present, it will inevitably require the presence of K_{DEP}, hence the context for allomorphy will always be available, but any other head would be too far away from *n*. This is why we only have the nominative vs. non-nominative allomorphy of the third-person pronominal base (similar to Tamil nouns investigated by McFadden 2018).[27]

(41) 3rd M SG ACC/GEN

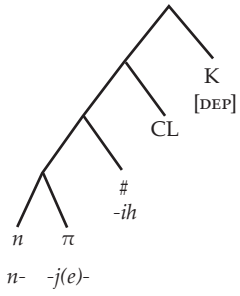


(42) 3rd F SG ACC/GEN

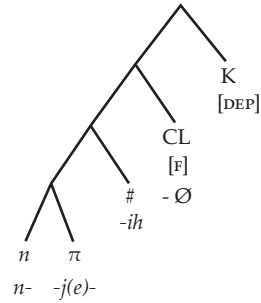


[27] The realization of K features in (41–42) will be left for further investigation. In principle, CL can be assumed to cause the null spell-out of the case projections and thereby block their realizations, as in (36).

(43) 3rd m pl acc/gen



(44) 3rd f pl acc/gen



To sum up the discussion thus far, examples (45–49) present a full list of exponents that realize third-person pronouns in BCMS.

(45) a. *n* ⇔ *on-*

b. *n* ⇔ *n-* / __ dep

(46) a. [π] ⇔ Ø

b. [π] ⇔ *-j* / __ dep

(47) a. [cl] ⇔ Ø

b. [cl] ⇔ *-ga* / __ dep

c. [cl] ⇔ *-mu* / __ obl

(48) a. [f] ⇔ *-a*

b. [f] ⇔ *-e* / __ dep

c. [f] ⇔ *-oj* / __ obl

d. [f] ⇔ *-Ø* / __ π, #

(49) a. [#] ⇔ *-i*

b. [#] ⇔ *-e* / __ f

c. [#] ⇔ *-ih* / __ dep

6. Discussion and Broader Implications of the Analysis

6.1. The Realization of Clitics

Recall from Table 2 that third-person clitics are simply the spell-out of the inflectional information without the base, while local person clitics spell out person, number, and case without the support morphemes found in strong pronouns. Under the current account, the realization of third-person clitics would amount to the spell-out of the π # CL K sequence without the *n*P, which is governed by the VI rules in (46–49). Similarly, local person clitics can be thought of as realized by the rules in (34–36), without the support morpheme, which is assumed to realize the base *n*.

Recall that third-person pronouns have adjectival endings (also present on other pronominal modifiers such as possessives and demonstratives). The realization of ϕ- and case features as clitics has the additional benefit of making the exponents more universally applicable in realizing agreement morphology on nominal modifiers. The only difference between them may be that nominal agreement morphology does not involve person agreement (Baker 2008). And omitting *n* in pronouns leaves us with a π-projection intact. Feminine clitics provide a window into how the spell-out of clitics and agreement affixes may be differentiated. Feminine clitics *je*.CL.F.SG.GEN, *joj*.CL.F.SG.DAT, and *ju*.CL.F.SG.ACC contain an additional *-j-* that adjectival agreement affixes lack (*-e*.F.SG.GEN/*-oj*.F.SG.DAT/*-u*.F.SG.ACC), and it is precisely this morpheme that is argued to be the realization of the π-node in the context of case, (46).[28]

Apart from the immediate morphological consequences that the non-realization of the *n*P base has, its absence also accounts for further differences between strong pronouns and clitics, namely their animacy restrictions. Specifically, strong pronouns must refer to animate/human entities, whereas clitics allow inanimate referents, (50).

(50) Clitics vs. pronouns, animacy/humanness (Despić 2011: 240)

a. Čuo sam **je**.
heard.M.SG AUX.1SG **CLT.3.F.SG.ACC**
'I heard her.' [+HUM] [-HUM]

b. Čuo sam **nju**.
heard.M.SG AUX.1SG **3.F.SG.ACC**
'I heard her.' [+HUM] *?[-HUM]

[28] I thank an anonymous reviewer for this insight.

The structures proposed above provide a handle on (50) by locating animacy and humanness features on the *n*P, as a part of natural gender. Specifically, since clitics lack animacy determination, by virtue of lacking the *n*P, they are compatible with any interpretation, i.e., there is no strict requirement that they be animate.

The outstanding question is what ensures the non-pronunciation of the *n*P base. A possible solution may employ *n*P deletion, as applied by van Urk (2018), based on a peculiar pronoun copying pattern in Dinka Bor (Nilotic), represented in (51). Both examples involve an overt copy of a fronted object pronoun, realized as the 3PL *kêek*. This pronoun thus matches the fronted pronoun only partially—in number, but not in person.

(51) a. wɔ̂ɔk ćɪ̤i bôl kêek/*wɔ̂ɔk tɪ̤iŋ.
1PL PRF.OV Bol.GEN 3PL/1PL see.INF
'Us, Bol has seen.'

b. wêek ćɪ̤i bôl kêek/*wêek tɪ̤iŋ.
2PL PRF.OV Bol.GEN 3PL/2PL see.INF
'You all, Bol has seen.' [Dinka Bor] (van Urk 2018: 940)

Van Urk (2018) argues that the sentences in (51) involve pronoun copying followed by partial deletion of the material in the lower copy. Whether a complete or an incomplete copy will be pronounced depends on whether a deletion operation has taken place within the DP.[29] Such operations may delete parts of the DP, with the restriction that the deleted bits be phasal units, leaving the remnant to be spelled out. In Dinka, he argues that *n*P is a phase, which makes it eligible for deletion. Recall that in his account, the *n*P also carries person features. If *n*P undergoes deletion, only the higher phrases in the DP are eligible for spell-out, resulting in the realization of a pronoun that only carries [pl] number, and no person (i.e., a 3PL pronoun). This can be straightforwardly extended to my account, due to the same treatment of pronominal *n*P as a phase. With third-person pronouns, the *n*P undergoes deletion before Transfer, thus leaving the $\pi > \# > \gamma >$ K phrases to be spelled out. The copy deletion analysis of van Urk may further capture the realization of resumptive pronouns as in (52). Assuming that resumption involves DP copying and the overt spell-out of the lower copy, the clitic *ga* in (52) may result from the same process as the copied pronouns in Dinka Bor; DP copying followed by copy deletion. The latter would delete the *n*P (and the root of the noun in its

[29] Van Urk (2018) tentatively proposes that such deletion operations may be implemented as non-Transfer, whereby Transfer would apply to an entire phase, not just the phase domain.

complement), leaving the $\pi > \# > \gamma > K$ sequence to be spelled out as a resumptive clitic.[30]

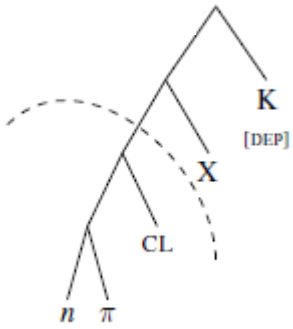
(52) **čovek** što sam **ga** upoznao
man.M.SG that AUX.1SG CLT.M.SG met.M.SG
prošle godine
last year
'a man whom I met last year'

In conclusion, clitics and strong pronouns start out as same abstract syntactic structures, differing only in their spell-out, which does not include the *n*P with clitics.

6.2. Additional Evidence: Demonstratives

The proposal above makes the prediction that the suppletion of third-person pronouns should be impossible if something blocked the K_{DEP} from creating a context for it, as illustrated in (53). In this section, I argue that demonstratives present exactly the case in question.

(53) X blocking allomorphy



BCMS has three types of demonstratives, which I will classify as proximal to the speaker (*ovaj*), proximal to the communication situation (*taj*), and distal (*onaj*), following Arsenijević (2018a). Abstracting away from their further spatial, temporal, discourse organizational, and epistemic interpretation (see Arsenijević 2018a for a detailed overview), for our purposes it suffices to note that the reference of the proximal demonstrative *ovaj* is connected to speaker-oriented deixis. The proximal demonstrative *taj*'s interpretation includes the

[30] As nouns are assumed not to involve a πP, additional analytical steps would have to be invoked to ensure that the resumptive pronoun does contain one.

proximity to the hearer, i.e., "the referent is present in the physical context of the communication and spatially proximal to the hearer" (Arsenijević 2018a: 166). Finally, the distal demonstrative includes the pronominal base of the third-person pronouns, *on-*, and is compatible with uses in which the referent is distal to the speech situation. Table 5 provides an overview of the morphological paradigms of demonstratives in BCMS.

Table 5. BCMS *on*-demonstratives

	SG			PL
	M	F	N	M/F/N
NOM	*ov-/t-/on-aj*	*ov-/t-/on-a*	*ov-/t-/on-o*	*ov-/t-/on-i/-e/-a*
ACC	*ov-/t-/on-og(a)*	*ov-/t-/on-u*	*ov-/t-/on-og*	*ov-/t-/on-e*
GEN	*ov-/t-/on-og(a)*	*ov-/t-/on-e*	*ov-/t-/on-og*	*ov-/t-/on-ih*
DAT	*ov-/t-/on-om(e)*	*ov-/t-/on-oj*	*ov-/t-/on-om*	*ov-/t-/on-ima*
INST	*ov-/t-/on-im*	*ov-/t-/on-om*	*ov-/t-/on-im*	*ov-/t-/on-ima*

What can be observed from Table 5 is that the inflectional endings of demonstratives are the same as those of third-person pronouns. The difference is in the nominative suffix *-aj*, instead of -Ø, which also carries an additional vowel length, both in the nominative and other cases. Given that demonstratives include the same set of inflectional endings as third-person pronouns, this indicates a shared internal structure. In fact, the distal demonstrative even shares the same base, with only the difference in the masculine nominative ending and vowel length on the final syllable (present in feminine and neuter as well). It is important to note that the stem in this case does not undergo suppletion, which would indicate that the phrase otherwise responsible for suppletion (assumed K_{DEP}) is either absent, or is present but too far away. I will argue for the latter option.

I assume that demonstratives are built the same way as pronouns, with the *n* π # CL K sequence, including an additional deictic phrase layer between the CLP and KP. In order to account for the internal structure of this deictic layer, I will borrow an assumption from Wiland (2018) (building on Lander and Haegeman 2016), who proposes the following hierarchy:

(54) $[_{KP}$ K $[_{DistP}$ Dist $[_{MedP}$ Med $[_{ProxP}$ Prox $[_{PersonP}$ Person $[_{NP}$ N]]]]]]

Taking the tripartite distinction from above, I assume that proximal demonstratives *ov-* and *t-* include the ProxP in their structure, which is then followed by DistP, which yields a distal demonstrative *on-*. This yields the functional sequence in (55).

(55) $[_{KP}$ K $[_{DistP}$ Dist $[_{ProxP}$ Prox $[_{cLP}$ CL $[_{\#P}$ # $[_{\pi P}$ π $[_{nP}$ *n*]]]]]]]

The analysis introduced above predicts particular consequences for the structure in (55). Since K_{DEP} is no longer the first phrase above the cyclic node CL, it should not be able to trigger the allomorphy of the pronominal stem. And in fact, this is what we observe, especially with distal demonstratives (which retain the base *on-* throughout).

Furthermore, due to containment of deictic projections (see Wiland 2018), we do not expect that DistP will affect the realization of the *n*-head either. A Prox-head must be present in order for the Dist one to be introduced, hence an intervening head will always be there, over which Dist will be too far away from the *n*P base (not the first head after the cyclic node). Case is introduced above this head and may still affect the spell-out of the inflectional endings, hence yielding the same set of exponents, but crucially leaving the base intact.

This analysis would still require some revision in order to account for Arsenijević's (2018a) claims that the particular properties of demonstratives can be used as proof of the existence of the D-layer in their structure, which he then uses to account for their behavior. I will leave this issue for further research. To that, it is also claimed that proximal *ov-* demonstratives include the representation of first person in their structure, while the hearer-proximal demonstratives include the representation of the hearer, also noticeable in the stem syncretic to that of second-person pronouns (*t-*). One way to deal with this would be to assume that proximal demonstratives are built on the local person nominalizer, while distal demonstratives are built on the third-person nominalizer. Or alternatively, that proximal pronouns also include the [SPKR] and [PRTCPT] features in their representation, which would then require stricter licensing conditions on their realization. One could also do away with this by following Gruber (2013) in assuming that there is no strict mapping between spacio-temporal dimensions of person and its morphological representation. These issues will be left for further research.

7. Summary and Conclusion

This paper has proposed a decompositional model of the internal structure of pronominal categories in BCMS. It was argued that a pronoun includes three internal zones: the *n*P base, the ϕ-features, and case. The base is argued to consist only of the *n*-head, which distinguishes pronouns from nouns, which, in addition to this head, include a category-free root. Phi-features are argued

to have a hierarchical internal structure, where they stand in an entailment relation to each other, such that the basic node (π, #, CL) projects the corresponding syntactic phrase, and the sub-nodes define the kind of person, number, or gender that a pronoun bears. Finally, case is represented by means of a case hierarchy, in which nominative is absent, and dependent case is entailed in oblique case.

The proposed hierarchical structure of the nominal phrase offers a possibility to model markedness based on the feature inventory and their structural organization. This is particularly useful in the representation of gender, where it was argued that the most marked gender in BCMS (feminine natural gender) also has the most complex internal structure, involving the most nodes in the gender hierarchy. Conversely, a default feature may be presented either as the root node only (e.g., π for third person or CL for masculine gender), or as an absence of features (absence of π resulting in lexical nouns or absence of CL resulting in neuter gender).

Finally, I have argued against dynamic phase determination in the internal structure of nominal categories by arguing that the *n*P and CLP are phases. This was shown to have particular consequences on allomorphy patterns, as well as the realization of clitics. In particular, I argued that the phasehood of the CL node accounts for the suppletion pattern under which suppletion is sensitive only to the nominative/non-nominative distinction, but not to any case beyond nominative. This was argued to follow from the entailment of case projections: Only the dependent-case-bearing projection is close enough to the pronominal stem to be able to trigger allomorphy; all the other case projections (which also entail K_{DEP}) are too far away. The phasehood of the *n* head has another consequence, namely this head can undergo deletion and thereby leave the ϕ- and case projections as remnants to be spelled out as a clitic.

The analysis has provided a unified structure for all pronominal elements, i.e., strong pronouns and clitics, deriving the structure of nouns as its direct consequence. I have shown how the analysis may extend to other pronominal elements, such as demonstrative pronouns, which opens an avenue for further research and inspection of other categories such as possessives (which would require more elaboration in order to capture two sets of gender/number affixes). In addition to providing a unified structure of the nominal phrase, the proposal thus has the benefit of providing a means to account for the morphological, syntactic, and referential behavior of nominals, under a single analysis.

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