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Nominal Ellipsis of Hybrid Nouns in Serbian

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1 Introduction

In this paper I investigate nominal ellipsis of hybrid nouns (HNs hereafter) in number mismatch contexts in Serbian.[1] I argue that the facts discussed in the paper support the following two general theoretical points:

(i) Formal gender of at least some HNs is introduced by the √ROOT + n complex (e.g., Kramer 2016).
(ii) At least some concord is post-syntactic (Kramer 2010, Noyer 1997, Halle and Matushansky 2006, Norris 2014 etc.).

By HNs, I assume nouns which display a mismatch between form and meaning. For instance, consider a HN like *braća* 'brothers' (Wechsler and Zlatić 2003, Alsina and Arsenijević 2012, Despić 2017, Puškar-Gallien 2017, 2018 etc.). The singular form *brat* 'brother' is a regular masculine, singular noun, which in terms of its declension (i.e., case suffixes it takes) and agreement/concord it triggers on its modifiers, behaves like any other regular masculine, singular noun. The plural form *braća* 'brothers', however, declines as declension II (i.e., a feminine, singular noun) and,

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thus, in addition to its semantic features (masculine, plural), it has feminine and singular as formal features. As discussed in section 2.1, prenominal modifiers of *braća* 'brothers' obligatorily show feminine, singular agreement. I call these HN "double-mismatch" HNs.

In section 2.2, I discuss another type of HNs, namely, nouns like *tata* 'dad', *vođa* 'leader' (Despić 2017, Puškar-Gallien 2017, 2018 etc.), which decline both in singular and plural as declension II nouns (feminine), even though they typically refer to males, and male-referring nouns in general belong to declension I. Thus, these nouns also display a mismatch between form and meaning. They can in principle trigger either feminine agreement (according to their declension gender) or masculine agreement (according to their meaning). As discussed in section 2.2, in singular these nouns trigger masculine agreement, while in plural the feminine pattern is strongly preferred.

The facts discussed in this paper also reveal that nominal ellipsis in Serbian has two possible sources: a) a nominal constituent can be elided (PF-deletion), or b) a null nominal proform can be used (e.g., Merchant 2014) The empirical picture turns out to be somewhat similar to the following contrast in English:

(1) a. The students attended the play, but many/few/six [e] left disappointed.
b. The short student arrived, but the tall one did not.

As pointed out by Lobeck (1995), Kester (1996), and many others, as a general pattern, numerals and quantifiers license and identify a nominal gap (sometime called the "elliptical pro") in English, as in (1a). At the same time, the plural anaphoric pronoun *ones* cannot be preceded by a quantifier or a numeral (unless it's modified by an adjective) (e.g., Kester 1996: 263-264):

(2) a. Many green ones/*Many ones.
b. Few cheap ones/*Few ones.
c. Three nice ones/*Three ones.

On the other hand, in (1b), which involves the singular number, the singular anaphoric *one* is obligatorily used; a simple gap is ungrammatical (Jackendoff 1977, Hornstein & Lightfoot 1981, Lobeck 1995, Kester 1996, Llombart-Huesca 2002 etc.). Thus, it seems that the availability of

a nominal gap is constrained by number in English; i.e., it is only possible in plural contexts. I will argue that true ellipsis (envisioned here as PF-deletion) in Serbian is also in a similar manner constrained by number, but this is masked by the fact that the anaphoric proform in Serbian is phonologically null. Consider the following constructions in Serbian:

(3) a. Mali dečak je stigao, a veliki [e] nije.
Small boy is arrived but $\text{big}_{\text{M.S}}$ not-is
'A small boy arrived but the big one did not.'
b. Tri sestre su stigle, a dve [e] nisu.
Three sisters are arrived but $\text{two}_{\text{F.P}}$ not-is
'Three sisters arrived, but two did not.'

Both (3a) and (3b) involve a nominal gap and an antecedent. In both examples the antecedent and the gap have the same number: in (3a) both of them are singular, and (3b) both of them are plural. In (3a) the gap is directly preceded by a modifier *veliki* 'big', which shows the expected masculine, singular agreement. Similarly, the gap in (3b) is preceded by the numeral *dve* 'two', which agrees with the missing nominal in feminine gender. English translations of (3a) and (3b) are somewhat different – (3a) (with singular numbers) involves the anaphoric *one*, while (3b) (with plural numbers) involves a gap. The opposite would be ungrammatical: (3a) cannot have a gap following *big*, and (3b) cannot have *ones* following *two* (**two ones*).

If the anaphoric *one* in Serbian is phonologically null (I follow Jackendoff 1977, Hornstein & Lightfoot 1981, and others, in assuming that *one* and its Serbian counterpart are pronouns), one cannot really directly tell whether the gaps in (3a-b) are ellipsis sites or null proforms. However, if one takes a closer look at the behavior of Serbian HNs the following picture emerges: a plural gap is an ellipsis site, if the antecedent is also plural, but a null pro-form if the antecedent is singular. In other words, ellipsis of a plural noun in Serbian requires a plural antecedent; if the antecedent is singular, the plural gap is in fact a zero pro-form.

This becomes more apparent once one looks at contexts of nominal ellipsis in which the antecedent and the gap have different numbers. In general, regular nouns in Serbian may undergo nominal ellipsis in number mismatch contexts, that is, a plural antecedent can license a singular gap and vice versa. However, HNs are limited in this respect. Consider the

above-mentioned HN *braća* 'brothers', which has two semantic features (masculine, plural) and two formal features (feminine, singular). All prenominal modifiers of this noun must show feminine, singular agreement (e.g., Despić 2017) when the noun is overt, but the situation is more complex in ellipsis contexts, when the noun is missing. In particular, the feminine, singular agreement on a prenominal modifier of *braća* 'brothers' is excluded, if the antecedent is the singular (regular) noun *brat* 'brother'. Here, the stranded prenominal modifier must show agreement for the semantic features (masculine, plural). If, on the other hand, the antecedent is also plural (another instance of *braća*), the agreement on the stranded modifier at the gap site must be for the formal features (feminine, singular). This is summarized in (4), where <PL> (F.S) refers to the formal agreement with a HN like *braća* 'brothers'.

(4) Nominal Ellipsis

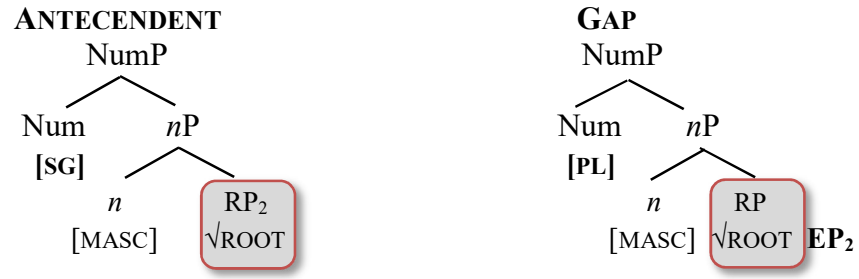
	ANTECEDENT	GAP
✓ REGULAR NOUN	<PL >	<~~SG~~>
✓ REGULAR NOUN	<SG >	<~~PL~~>
✓ HYBRID NOUN	<PL> (F.S)	<~~SG~~>
* HYBRID NOUN	<SG >	<~~PL~~> (~~F.S~~)

Thus, regular nouns tolerate number mismatches between the antecedent and the gap; i.e., a regular noun in plural (<PL >) as antecedent can license a singular gap (<~~SG~~>), with a regular, singular agreement on the stranded modifier. And vice versa, a regular, singular antecedent can license the regular, plural agreement at the gap site. But a regular, singular antecedent (e.g., *brat* 'brother') cannot license the purely formal (feminine, singular) agreement on the stranded adjective modifying the elided HN *braća* 'brothers'. Instead, the semantic (masculine, plural) becomes possible.

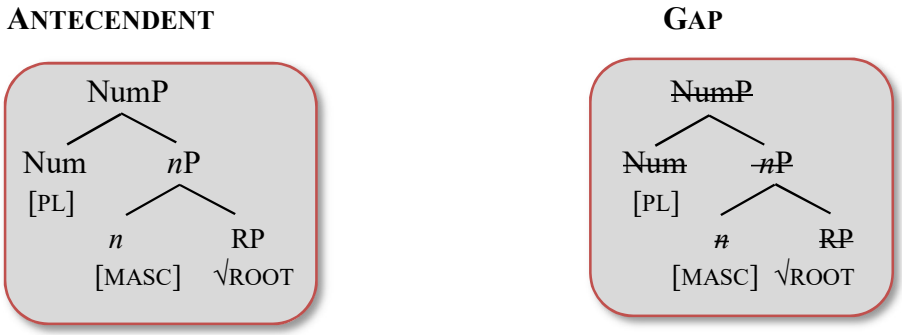
As already mentioned, I argue that such facts can be accounted for if we assume, following Merchant (2014), that in Serbian (similarly to Greek) nominal ellipsis has two possible sources: a) a nominal constituent can be elided (PF-deletion), or b) a null nominal proform can be used. But I also propose that in Serbian, specifically, null proforms are used in number mismatch contexts (i.e., they target RPs), as in (5). If the

antecedent and the gap match in plural number, PF deletion is employed, as in (6). [2]

(5) Number mismatch: Null proform



(6) Number match: PF-Deletion



[2] There seems to be substantial variation with respect to prenominal agreement/concord with HNs among different dialects/regions of Bosnian/Croatian/Montenegrin/Serbian (see § 2–3). As I have only consulted native speakers from Serbia (concretely my speakers were from the West and North of Serbia: Užice, Beograd, Sremska Mitrovica, and Bečej), I have decided to use the term "Serbian" instead of "BCMS" here, primarily with geopraphical rather than linguistic motivation. And I am fully aware that there might be further regional variation within Serbia, but one has to stop with geographical specifications at some point.

In (5)-(6) (and elsewhere in the paper), the shaded parts identify the gap and its structurally identical antecedent. If the shaded part at the gap site is subscripted with EP (i.e., "empty pronominal"), I assume that the missing material is an empty pronoun (as in (5)). EP is coindexed with the antecedent RootP with the index 2. The strike-through at the gap site, as in (6), indicates PF-deletion. RootP is also abbreviated to RP throughout the structures.

The paper is structured as follows. In Section 2 I present the main empirical facts and generalizations. In addition to HNs like *braća* 'brothers', I examine HNs like *tata* 'dad' and *vođa* 'leader', whose use is also constrained in nominal ellipsis, but in a somewhat different way. Section 3 introduces the analysis and shows how it accounts for the presented facts. Section 4 discusses some implications of the analysis and concludes the paper.

2 Nominal ellipsis and HNs: the main empirical puzzle

Serbian regular nouns can be elided regardless of number mismatch. (7)-(8) illustrate this for masculine but the same contrast holds for feminine and neuter regular nouns as well.

(7) ✓Plural antecedent > Singular gap
Moji stariji **sinovi** navijaju za Zvezdu, a najmlađi **sin** navija
My$_{M.P.}$ older$_{M.P}$ sons support for Z. but youngest$_{M.S}$ son supports
za Partizan.
for P
'My older sons support Red Star, but the youngest one supports Partizan.'

(8) ✓Singular antecedent > Plural gap
Moj najmlađi **sin** navija za Partizan a stariji **sinovi** navijaju
My$_{M.S.}$ youngest$_{M.S}$ son supports for P but older$_{M.P}$ sons support
za Zvezdu.
for Star
'My youngest son supports Partizan, but the older ones support Red Star.'

Serbian HNs display an interesting pattern in these contexts. I discuss two types of HNs in the next two subsections (see also Murphy et al. 2018 for an investigation of ellipsis of HNs but under gender mismatches).

2.1 HNs of type 1: *braća* 'brothers', *deca* 'children'

HNs like *braća* 'brothers' (Wechsler and Zlatić 2003, Alsina and Arsenijević 2012, Despić 2017, Puškar-Gallien 2017, 2018 etc.) have a double-mismatch between formal and semantic features. While *brat* 'brother' is a regular masculine, singular noun (see *Table 1*), *braća* 'brothers' declines with the declension II pattern (see *Table 2*) and, thus, in addition to the semantic masculine and plural features, it has formal feminine and singular features. As shown in (9), nominal modifiers obligatorily agree with formal features (Despić 2017), while finite verbs must agree with semantic features:

(9) Moja/(*Moji) **braća** spavaju/(*spava).
My$_{F.S}$/(my$_{M.P}$) brothers sleep$_{P}$/(sleep$_{S}$)
'My brothers are sleeping.'

Table 1

SG	ADJECTIVE	DECLENSION **I**	
	beautiful	*boy*	*brat*
NOM	lep-**i**	dečak	brat
ACC	lep-**og(a)**	dečak-**a**	brat-**a**
GEN	lep-**og(a)**	dečak-**a**	brat-**a**
DAT	lep-**om(e)**	dečak-**u**	brat-**u**
LOC	lep-**om(e)**	dečak-**u**	brat-**u**
INS	lep-**im**	dečak-**om**	brat-**om**

Table 2

SG	ADJECTIVE	DECLENSION **II**	
	beautiful	*woman*	*brothers*
NOM	lep-**a**	žen-**a**	brać-**a**
ACC	lep-**u**	žen-**u**	brać-**u**
GEN	lep-**e**	žen-**e**	brać-**e**
DAT	lep-**oj**	žen-**i**	brać-**i**
LOC	lep-**oj**	žen-**i**	brać-**i**
INS	lep-**om**	žen-**om**	brać-**om**

Unlike in (7)-(8), these nouns do not tolerate number mismatch in ellipsis. As shown in (10)-(11), while the HN plural antecedent can license a regular singular gap, the opposite is not possible.

(10) ✓Plural HN antecedent (formal c.) > Singular regular gap
(?) Moja starija **braća** navijaju za Zvezdu, a najmlađi **brat**
My$_{F.S.}$ older$_{F.S}$ brothers support for Z. but youngest$_{M.S}$ brother
navija za Partizan.
supports for P.
'My older brothers support Red Star, but the youngest one supports Partizan.'

(11) *Singular regular antecedent > Plural HN gap (formal c.)
*Moj najmlađi **brat** navija za Partizan a starija **braća** navijaju
My$_{M.S.}$ youngest$_{M.S}$ brother supports for P but older$_{F.S\ brothers}$ support
za Zvezdu.
for Star
'My youngest brother supports Partizan, but the older ones support Red Star.'

At the same time, concord with semantic features, otherwise impossible with an overt HN, becomes available, as shown in (12).[3]

[3]One of the speakers I consulted found (8) degraded, but still somewhat acceptable, while the rest of the informants found it quite degraded/unacceptable.

(12) ✓Singular regular antecedent > Plural HN gap (semantic c.)
(?) Moj najmlađi **brat** navija za Partizan a stariji **braća** navijaju
My$_{M.S.}$ youngest$_{M.S}$ brother supports for P but older$_{M.P.}$ brothers support
za Zvezdu.✓
for Z

One may wonder at this point if the idiosyncratic, feminine singular agreement is at all possible at the gap site. And it is, when the antecedent is plural, that is, when the antecedent also triggers formal agreement. In fact, in this case the semantic agreement at the gap site doesn't seem to be good:[4]

(13) ✓Plural HN antecedent (formal c.) > Plural HN gap (formal c.)
Moja starija **braća** navijaju za Zvezdu, a mlađa **braća**
My$_{F.S.}$ older$_{F.S}$ brothers support for Z but younger$_{F.S}$ brothers
navijaju za Partizan
support for Partizan

(14) ?*Plural HN antecedent (formal c.) > Plural HN gap (semantic c.)
Moja starija **braća** navijaju za Zvezdu, a mlađi **braća**
My$_{F.S.}$ older$_{F.S}$ brothers support for Z but younger$_{M.P}$ brothers
navijaju za Partizan.
support for Partizan

Note that *deca* 'children', which is another HN of this type, is complicated by the fact that neuter, plural is syncretic with feminine, singular in nominative: they both end in *-a* and trigger agreement that ends in *-a*.

(15) Lep-*a* imen-*a* /devojk-*a*
Beautiful names$_{NEUT.PL}$ girl$_{F.SG}$
'Beautiful names/girl.

However, all of them found (9) to be quite acceptable, even though all of them reject semantic agreement when *braća* 'brothers' is overt.

[4] Note that for some speakers (10)-(13) are processed more easily if the verb in the second conjunct is also elided (e.g., *navija* in (10)). That, however, doesn't affect the contrast in nominal ellipsis; i.e., the contrast between (10) and (11) is there, regardless of whether or not the verb in the second conjunct is overt.

Thus, it is not possible to show with nominative forms that a contrast like (10)-(11) holds for *deca*, because the semantic and formal agreement in nominative look identical.

(16) Singular regular antecedent > Plural HN gap
(?)Moje najmlađe **dete** navija za Partizan a starija **deca** navijaju za
My$_{N.S.}$ youngest$_{N.S}$ child supports for P but older$_{N.P}$ sons support for Zvezdu.
Star
'My youngest child supports Partizan, but the older ones support Red Star.'

The form *starija* 'older' is ambiguous between neuter, plural and feminine, singular. To show that the contrast in (10)-(11) holds for *deca* 'children' as well, one needs to look at non-nominative forms. The example in (17) involves a singular, accusative antecedent and a plural, accusative gap with formal (feminine, singular) concord on the adjective, and similarly to (11) it is substantially degraded/unacceptable. And just like in the case of (12), the example improves with semantic (neuter, plural) concord at the gap site (*starije*), which is otherwise not possible with the overt noun (**starije decu*). (18) simply shows that regular nouns can undergo ellipsis with a singular, accusative antecedent and a plural accusative gap.

(17) *Singular antecedent > Plural HN accusative gap (formal c.)
*Danas sam video najmladje dete, a sutra ću
Today am seen youngest$_{N.SG.ACC}$ child but tomorrow will
videti stariju **decu**.
see older$_{F.SG..ACC}$ **children**
'Today I saw the youngest child, and tomorrow I will see the older ones.'

(18) ✓Singular antecedent > Plural accusative gap
Danas sam video najmladjeg sina, a sutra ću
Today am seen youngest$_{M.SG.ACC}$ son but tomorrow will
videte starije **sinove**.
see older$_{M.PL.ACC}$ **sons**
'Today I saw the youngest son, and tomorrow I will see the older ones.'

To sum up, while the overt noun *braća* 'brothers' requires formal agreement on the adjective, if *braća* is elided, the formal agreement becomes substantially degraded. At the same time, the semantic agreement which is unacceptable with the overt noun, becomes possible. Thus, one part of the puzzle is that a plural HN gap unexpectedly: (i) resists formal agreement and (ii) makes otherwise impossible semantic agreement possible. The second part of the puzzle is that not all plural HN gaps behave this way. This is only true if the antecedent is singular. When the antecedent is also a plural HN, then the formal agreement is still required at the gap site. Or in other words, when both the antecedent and the gap are plural, the HN gap behaves more like an overt HN in terms of agreement requirements.

2.2 HNs of type 2: *tata* 'dad', *vođa* 'leader'

HNs of this type decline both in singular and plural as declension II nouns, even though they typically refer to males (although see next section for details) and male-referring nouns in general belong to declension I. Thus, these nouns are hybrid because they can in principle trigger either feminine agreement (according to their declension gender) or masculine agreement (according to their meaning).

Table 3: Declension II: *žena* 'woman'; *tata* 'dad'

	SINGULAR		PLURAL	
NOM	žen-**a**	tat-**a**	žen-**e**	tat-**e**
ACC	žen-**u**	tat-**u**	žen-**e**	tat-**e**
GEN	žen-**e**	tat-**e**	žen-**a:**	tat-**a:**
DAT	žen-**i**	tat-**i**	žen-**ama**	tat-**ama**
LOC	žen-**i**	tat-**i**	žen-**ama**	tat-**ama**
INS	žen-**om**	tat-**om**	žen-**ama**	tat-**ama**

In singular, all agreement targets (including prenominal modifiers) agree with masculine obligatorily (Despić 2017, Puškar-Gallien 2018):

Table 4: Adjective agreement with DCII : žena 'woman'; *tata* 'dad'

SG	*beautiful* (FEM)	*woman*	*beautiful* (MASC)	*dad*
NOM	lep-**a**	žen-**a**	lep-**i**	tat-**a**
ACC	lep-**u**	žen-**u**	lep-**og(a)**	tat-**u**
GEN	lep-**e**	žen-**e**	lep-**og(a)**	tat-**e**
DAT	lep-**oj**	žen-**i**	lep-**om(e)**	tat-**i**
LOC	lep-**oj**	žen-**i**	lep-**om(e)**	tat-**i**
INS	lep-**om**	žen-**om**	lep-**im**	tat-**om**

In plural, however, agreement with feminine seems to be obligatory in Serbian (in contrast to Croatian, in which semantic agreement in plural is quite possible). According to Despić's (2017) survey, out of 42 informants consulted, 39 chose the feminine pattern on the attributive adjective (35 of those speakers completely reject the masculine form, while 4 of them allow the masculine form, but do not prefer it), whereas 3 speakers overall chose the masculine form (completely rejecting the feminine form) (Despić 2017: 265). Thus, even though the formal pattern is quite dominant, the semantic agreement is not completely excluded.

(19) Naše/*?Naši tate.
Our.F./Our.M. dads

Some of these nouns also do not tolerate number mismatch in ellipsis. Similar to (10)-(11), in cases like *tata* 'dad', the plural antecedent with idiosyncratic, formal agreement can license a regular, singular gap, but not vice versa:

(20) ✓Plural HN antecedent (formal c.) > Singular regular gap
Skoro sve **tate** su došle, samo jedan $_{\textbf{tata}}$ nije.
Almost all$_{F.P}$ dads are come only one$_{M.S\ dad}$ not-is
'Almost all dads already came, only one did not.'

(21) *Singular regular antecedent > Plural HN gap (formal c.)
*?Najstariji **tata** je već došao, a mlađe $_{\textbf{tate}}$ će
Oldest$_{M.S}$ dad is already came but younger$_{F.P\ dads}$ will
doći sutra.
come tomorrow
'The oldest dad is already here, and the younger ones will come tomorrow.'

And just like in (12), the semantic agreement becomes possible:

(22) ✓Singular regular antecedent > Plural HN gap (semantic c.)
Najstariji **tata** je već došao, a mlađi **tate** će doći sutra.
Oldest$_{M.S}$ dad is already came but younger$_{M.P\ dads}$ will come tomorrow

Furthermore, when the antecedent is also plural, the formal agreement is required at the gap site. Thus, so far, HNs of this type behave like *braća* and *deca*.

(23) ✓Plural HN antecedent (formal c.) > Plural HN gap (formal c.)
Naše tate su došle, a gde su vaše/?*vaši **tate**?
Our dads are come and where are your$_{F.PL}$/your$_{M.PL}$ **dads**
'Our dads are here, and where are yours?

However, it turns out that *tata* 'dad' is more of an exception than the norm. Specifically, for all the speakers I consulted, HNs like *vođa* 'leader', *starešina* 'head, senior', *skeledžija* 'ferryman', *komšija* 'neighbour' etc., which are of the same type as *tata*, actually behave differently in the same context. In particular, constructions like (24) with *vođa* 'leader' are judged as acceptable.[5]

(24) ✓Singular regular antecedent > Plural HN gap (formal c.)
Najstariji ***vođa*** je već došao, a mlađe ***vođe*** će
Oldest$_{M.S}$ leader is already came but younger$_{F.P\ leaders}$ will
doći sutra
come tomorrow
'The oldest leader is already here, and the younger ones will come tomorrow.'

Thus, any successful analysis of these facts should attempt to answer why the two HN types differ in their behavior. Specifically, when the antecedent is a singular noun, the expected formal agreement is excluded with HNs like *braća* 'brothers' but now quite with HNs of the second type, which show some variation. I present my analysis in the next section.

[5] All of the speakers I consulted found a substantial difference in acceptability between (21) and (24).

3 Main proposal

I follow Merchant (2014) in assuming that nominal ellipsis has two possible sources: a nominal constituent can be elided (via PF deletion), or a null nominal proform can be used (see Sudo and Spathas 2019 for an alternative account of the Greek facts). I also propose that in order to account for the full range of facts presented so far, we need to assume for Serbian, specifically, that null proforms are used in number mismatch contexts (i.e., they target RootPs), as in (25), whereas in cases of number match, PF deletion is employed, as in (26).

(25) Number mismatch: Null proform

(26) Number match: PF Deletion

3.1 HNs of type 1: *braća* 'brothers', *deca* 'children'

The puzzling property of *braća* 'brothers', is that in plural this noun declines as feminine, singular. That is, in plural there is a double mismatch between meaning and form. I will assume that this is a result of post-syntactic rules in (27). These rules are not particularly insightful, but there are limited to a very few cases and they provide a formal account for what seems to have been a historical accident.

(27) a. n [MASC] → n [FEM]/ ___ √BRAT, Num [PL]
b. Num [PL] → Num [SG] /___√BRAT, n [FEM]

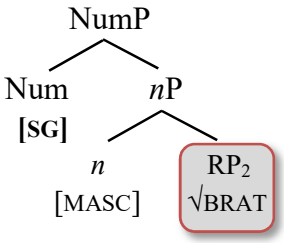
Braća developed by adding the PIE collective suffix *-ija* to *brat* 'brother' creating *bratija* 'brotherhood' which is still used in Serbian as a collective noun, although somewhat archaically (Wayles Browne, p.c.). This noun further developed into *braća* 'brothers' which is a *bona fide* hybrid noun. While *bratija* may be used with a singular finite verb, this is not possible with *braća*, which requires plural agreement on finite verbs.

(28) a. Bratija je došla.
Brotherhood is arrived
'The brotherhood has arrived.'
b. Braća su/*je došla.
Brothers are/is arrived
'Brothers have arrived.'

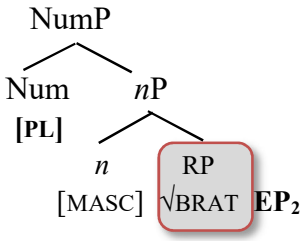
The post-syntactic rules in (27) manipulate the features of *brat* in plural, at some point before the Vocabulary Insertion (VI hereafter). (27) is designed in such a way so that the masculine and plural features are replaced with feminine and singular. The idea is that any grammatical operation that applies after this point will be able to see only feminine singular features, including VI, which will obligatorily insert feminine, singular case suffixes. If we assume that concord is also a post-syntactic operation (e.g., Kramer 2010, Noyer 1997, Halle and Matushansky 2006, Norris 2014 etc.), which applies after (27), then we can directly account for the fact that feminine, singular concord is obligatory with *braća* (e.g., (9)). Details of the technical implementation of this idea may vary, the important thing is the timing of these operations.

Consider now the ellipsis facts. According to my proposal, the only available strategy of nominal ellipsis in number mismatch contexts like (11) is a null proform:

(29) **ANTECENDENT**



GAP



In order for rules in (27) to apply and replace masculine plural with feminine singular, presence of the root in question (namely, √BRAT) is required. But the root is never inserted in the gap site in (29), since here we have a null proform, by assumption, which gets its gender feature (masculine) in syntax via coindexation with the antecedent. This directly explains why feminine singular agreement at the gap site, as in (11), is not acceptable: there is simply no source for these features in (29). The only possible type of concord is masculine, plural, which directly accounts for the acceptability of (12). If *braća* is overt, then feminine singular concord is obligatory, given the way (27) works. If *braća* is covert, with a singular antecedent *brat*, then we are dealing with a null proform, and the only gender feature available at the gap site is masculine (via coindexation).

Recall, however, that when the antecedent is also plural the formal (feminine, singular) concord at the gap site is obligatory. This is illustrated in (13) repeated here as (30):

(30) ✓Plural HN antecedent (formal c.) > Plural HN gap (formal c.)
Moja starija **braća** navijaju za Zvezdu, a mlađa **braća**
My$_{F.S.}$ older$_{F.S}$ brothers support for Z but younger$_{F.S}$ brothers
navijaju za Partizan
support for Partizan

I propose that in this case we have a PF-deletion operation, which applies after the rules in (27) and concord. This in turn also provides an

explanation for why the semantic agreement in such contexts is excluded (see (14)) – the only features that are present after the application of (27) are feminine and singular (but see also discussion in Section 4).

(31) **ANTECENDENT** **GAP**

3.2 HNs of type 2: *tata* 'dad', *vođa* 'leader'

HNs of the second type have two genders in both singular and plural: feminine (via declension) and masculine (via meaning). Recall that in singular, semantic concord is obligatory, whereas in plural, for the majority of Serbian speakers, formal concord is necessary.

I follow Despić (2017) in assuming that this contrast in agreement is due to the post-syntactic rules in (32):

(32) a. *[[PL], [GEN]$_{SEM}$, [GEN]$_{D}$, [NOM]]/+____]$_{W}$
b. [GEN]$_{SEM}$→ ∅/ [___ [GEN]$_{D}$ [PL] [NOM] √ROOT]
[GEN]$_{SEM}$ → *semantic gender*
[GEN]$_{D}$ → *declension (formal) gender*

In Despić (2017) I argued that this is a subtype of the general process of gender neutralization in plural forms in Slavic, due to markedness constraints (see also Calabrese, 2005, 2011, Noyer 1998, Nevins 2011 etc.). Consider first (33) and (33). The rule in (33b) is an impoverishment rule, which operates on fully specified syntactic inputs, but deletes features prior to VI – this results in systematic neutralizations in surface forms. The markedness constraint in (33a) simply bans [PL], [-NOM], and [GEN] from co-occurring in the suffix position. In other words, at the point of VI no

node will ever bear plural, non-nominative *and* gender in Serbian. For example, an underlying combination [FEM, PL, DAT] will lose the [FEM] feature and surface as [PL, DAT]. The assumption is that gender will be deleted first in marked contexts, as it is lowest in the hierarchy in (32).

(33) a. *[[PL], [−NOM], [GEN]]/+____]$_W$ *Serbian*
b. [GEN] → ∅/ [__ [PL] [−NOM]]
(34) Number/Case>Gender

Note, however, that different languages may have different markedness thresholds. In Serbian, plural adjectives and pronouns make a gender distinction in nominative, which is the unmarked value for Case. Only when plural is combined with non-nominative cases, which are marked Case values, do we see gender neutralizations triggered by (31). In Russian, however, the markedness accumulation line is arguably at a lower point – gender is neutralized in all plural cases, including nominative (e.g., Timberlake 1993: 844-846).[6] Thus, only one marked feature is needed.

(35) a. *[[PL], [GEN]]/+____]$_W$ *Russian*
b. [GEN] → ∅/ [__ [PL]]

I argue that in (32), [GEN]$_D$ is unmarked as opposed to [GEN]$_{SEM}$, since it is *obligatorily* present on the noun case suffixes, see *Table 3*. That is, formal, feminine gender must be unambiguously present in the representation, as it controls case suffixes (in both numbers). It is, then, plausible that [GEN]$_{SEM}$ would be neutralized first in the contexts of high markedness (i.e., plural contexts), due to (32a) which, similarly to (33a), is a markedness constrain. In other words, plural forms in a sense "default" to the declension gender.

On this approach it is not surprising that Croatian allows semantic agreement in plural – it simply has a higher markedness threshold than Serbian. A conceptual advantage of this approach, in my personal view, is that the variation in question is relegated to interfaces (it is essentially a

[6] This is also true for Belorussian, Ukrainian, Bulgarian, and Macedonian (see Despić 2017 for details.)

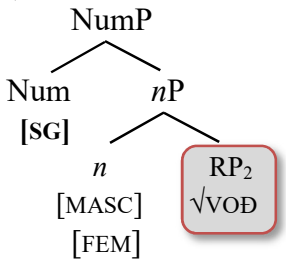
PF phenomenon); i.e., it does not lead to a potentially unnecessary enrichment of syntactic operations.

3.2.1 HNs of type 2 and nominal ellipsis

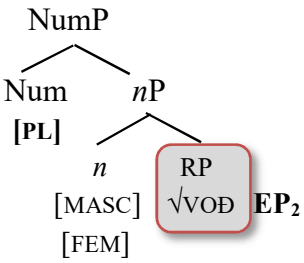
With this background, consider first the acceptable structure in (24), repeated here as (36):

(36) ✓Singular regular antecedent > Plural HN gap (formal c.)
Najstariji ***vođa*** je već došao, a mlađe ***vođe*** će
Oldest$_{M.S}$ leader is already came but younger$_{F.P\ leaders}$ will
doći sutra
come tomorrow
'The oldest leader is already here, and the younger ones will come tomorrow.'

(37) **ANTECEDENT**



GAP



The nominalizing head *n* is specified here for two features, feminine and masculine, given that this is a declension II noun. I assume that *n* at the gap site is also specified for those features via coindexation. Note that *pro* (another empty pronominal) in Serbian can acquire the purely formal feminine feature. In (38), the subject of the second sentence is presumably *pro*, which is coindexed with the subject *vođe* 'leaders' of the first sentence. It triggers feminine plural agreement on the verb and adjective, which indicates that it may get the feminine feature from the antecedent.[7]

[7] I assume that the anaphoric proform and its antecedent do not have to be in the same sentence, but the antecedent needs to be contextually provided. This is very similar to *pro* in (38).

(38) Vođe su stigle. Bile su mnogo ljute.
Leaders are arrived$_{F.P}$ Were$_{F.P}$ are very angry$_{F.P}$
'The leaders arrived. They were very angry.'

In order for the impoverishment rule in (32b) to apply and delete masculine gender in the context of plural, the specific declension II root has to be present. Since the gap in (36) is in fact a null proform, the root never gets inserted, and consequently masculine doesn't get deleted. There is in principle nothing that would prevent either feminine plural, or masculine plural concord. According to my speakers, as (39) illustrates, masculine plural concord is also available here:

(39) ✓Singular regular antecedent > Plural HN gap (semantic c.)
Najstariji ***vođa*** je već došao, a mlađi ***vođe*** će
Oldest$_{M.S}$ leader is already came but younger$_{M.P\ leaders}$ will
doći sutra.
come tomorrow
'The oldest leader is already here, and the younger ones will come tomorrow.'

Note that the majority of HNs of this type (e.g., *vođa* 'leader', *starešina* 'head, senior', *skeledžija* 'ferryman', *komšija* 'neighbour' etc.) behave this way. Why is then (21), with *tate* 'dads' (repeated below as (40)) judged as unacceptable/degraded?

(40) *Singular regular antecedent > Plural HN gap (formal c.)
*?Najstariji **tata** je već došao, a mlađe **tate** će
Oldest$_{M.S}$ dad is already came but younger$_{F.P\ dads}$ will
doći sutra.
come tomorrow
'The oldest dad is already here, and the younger ones will come tomorrow.'

I suggest that this is related to the fact that *tata* carries a strong lexical presupposition of maleness, and *vođa* does not. The following contrast illustrates this point (e.g., Bobaljik and Zocca 2011, Merchant 2014 etc.):

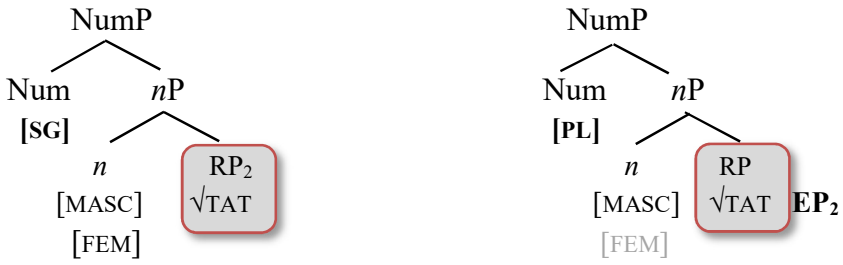
(41) Milan je dobar vođa, a i Marija je.
Milan is good$_{M.S}$ leader but and Mary is
'Milan is a good leader and so is Mary.'
(42) *Milan je dobar tata, a i Marija je.
Milan is good$_{M.S}$ dad but and Mary is
'Milan is a good dad and so is Mary.'

Furthermore, (43) shows that the referent of *vođa* 'leader' can be a female, even though the agreement on the adjective is obligatorily masculine:

(43) Marija je dobar vođa.
Marija is good$_{M.S}$ leader
'Mary is a good leader.'

Merchant (2014: 18-19) offers the following explanation, which I adopt here: "I propose that the lexical meanings of the various nouns in these classes vary among themselves in whether or not the gender information is also encoded. The proposal is that certain nouns (those that do not license alternations: *adherfos, adherfi, dhaskala*) are lexically specified for the sex of the entities that they denote, while the other class (*dhaskalos, jatros, jatros*) is not. This information is redundant in the system, as it is also provided as the semantic contribution of the Gender node with which these nouns combine; we may interpret this redundancy as a kind of strength of association of the meaning to the lexeme, if we wish, though this implementation does not capture a gradient sense."

(44) **ANTECENDENT** **GAP**



As (44) shows, *vođa* 'leader' and *tata* 'dad' are identical structurally, but the latter carries the lexical presupposition of maleness. What really goes

wrong in (40), is that the null proform via co-indexation with the antecedent *tata* 'dad' acquires its lexical presuppositions, including that of maleness. That lexical presupposition is incompatible with the feminine, plural adjectival form in (40)/(44). Consequently, the only available form will be masculine, plural.[8] Another HN of this type which behaves like *tata* 'dad' is *deda* 'grandpa', which shouldn't be surprising.

Finally, if the present proposal is on the right track, we should expect only the feminine plural concord to be possible in cases in which both the antecedent and the gap are plural. According to my analysis, in such cases we will have PF-deletion, which happens after the impoverishment of the masculine feature in (37) and concord have applied. This seems to be correct, as the following examples are completely fine with feminine plural concord at the gap site, but degraded with masculine instead of feminine.

(45) a. Naše tate su došle, a kad vaše/?*vaši **tate** dolaze?
Our dads are come and when your$_{F.PL}$/your$_{M.PL}$ **dads** come
'Our dads came, and when are yours coming?
b. Naše vođe su došle, a kad vaše/?*vaši **vođe** dolaze?
Our leaders are come and when your$_{F.PL}$/your$_{M.PL}$ **leaders** come
'Our leaders came, and when are yours arriving?

A confounding factor here is that the version with the masculine plural agreement is in principle fine if the adjective at the gap site is interpreted as unrestricted by the noun *tate/vođe*. This is, in fact, a typical reaction of my consultants when presented with such examples: *vaši* 'yours' in (45a), for instance, can only be interpreted as "yours" in general – your family or whatever group is associated with "you", but not as "your dads". The opposite is true for *vaše*.

This confounding factor is impossible to eliminate, since virtually any prenominal modifier with masculine, plural inflection can have this

[8] Recall that I have assumed that in order for the impoverishment rule in (32b) to apply and delete masculine gender in the context of plural, the specific declension II root has to be present. Since the gap in (37) is in fact a null proform, the root never gets inserted, and consequently masculine doesn't get deleted. This is extended to (44) as well – neither masculine, nor feminine have to be deleted at the gap site, but the lexical presupposition of √TAT still blocks the feminine form.

interpretation: *stariji* ‘older’ may be interpreted as “the older ones” in general, etc. This issue does not arise in (11), for instance, since the feminine singular form *starija* ‘older’ cannot have this alternative meaning, and perhaps for this reason the contrast in (10)-(11) might appear sharper to some speakers that the one in (45).

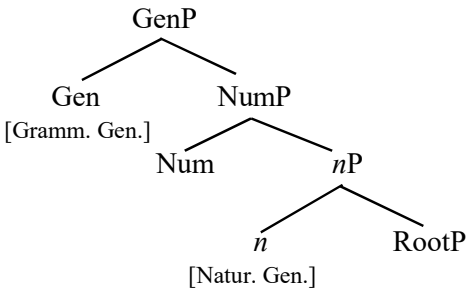
In the next section I summarize the main points of my analysis and discuss some of its implications.

4 Summary and conclusion

I have argued that the facts discussed here support the view that: i) (at least some) Concord is post-syntactic, and ii) gender (both formal and semantic) is a property of the √ROOT + *n* complex. Regarding the second point, on the analysis proposed here, a strictly formal gender, like feminine with *tata* ‘dad’, would be located on *n*, but it would have to be matched/associated with a Root specified for a specific declension diacritic (i.e., declension II). More specifically, it could be argued that feminine is added to *n*, if the root is specified for a declension II diacritic. This does not raise locality issues, since RootP is the complement of *n*.

At the same time, the facts presented here seem to challenge views according to which the strictly formal gender is located higher then NumP (e.g., in a separate GenP above NumP; see Puškar-Gallien 2017, 2018), since they predict that mismatches in gender should be tolerated in nominal ellipsis, just like mismatches in number are. Consider the structure in (46), adopted from Puškar-Gallien 2017, 2018):

(46)



In a nutshell, the formal/grammatical feminine gender of *tata* ‘dad’ would be under GenP in this structure, and the natural gender (masculine) would

be under *n*. Given that mismatches in number are tolerated in Serbian (i.e., as long as *n*P doesn't violate the principle of identity, NumPs may have different values), we would expect that mismatches in grammatical gender would be tolerated as well, given that they are located higher than NumP. Thus, the facts presented here seem to challenge this analysis, since the formal gender mismatches do not seem to be tolerated. However, if we take a closer look at HNs like *vođa* 'leader', for which the analysis in Puškar-Gallien (2017, 2018) has been developed, we see that gender mismatches are in fact tolerated, and that both the analysis based on (46) and my analysis presented in the previous section seem to be in principle compatible with these facts. Constructions like (40), with *tata*, on the other hand, are unacceptable on my analysis not because of the position of the formal gender in the structure, but because of the strong lexical maleness presupposition of *tata*, and this explanation could be developed even within a framework that assumes (46).

I do believe, however, that the behavior of *braća* 'brothers' and *deca* 'children' support the view that the information about the formal, idiosyncratic gender is closer to RootP in the structure.[9] I leave the question of whether these two HN types should have the same underlying structure for future work.

Another important factor here, which I had to ignore, might be *anti-presupposition/implicated presupposition*, (e.g. Heim 2008, Sauerland 2008, Sudo and Spathas 2019 etc.). That is, some HNs of the second type come in male/female pairs: *vojvoda/vojvotkinja* 'duke/duchess', and some do not (*vođa* 'leader') and this may affect the acceptability of ellipsis examples. I leave investigation of this aspect of the problem for future research as well.

I have also argued that all of the data can be accounted for if we assume that Serbian employs two strategies of nominal ellipsis: null proforms at the level of RootP (when the numbers don't match), and PF

[9] Puškar-Gallien (2018) suggests that (unlike HNs of the *tata* 'dad' type) *braća* should be treated as a collective noun in the plural. Thus, in the singular, NumP is absent and the natural [MASC] is located on *n*, but in the plural, the NumP is assumed to be carrying the feature [#:coll]. The presence of the collective number and the absence of gender is assumed to be triggering the insertion of *-a*.

deletion at the level of NumP (when number values match).[10] Another way of looking at this is that it is not always the case that an otherwise unacceptable semantic agreement with the hybrid noun improves, if instead of the overt noun we have a gap. This happens only in number mismatch contexts. In contexts where the antecedent is also a plural hybrid noun (i.e., numbers match), formal agreement at the gap site is required, and semantic agreement does not lead to improvement. This also indicates that we are dealing with two distinct underlying ellipsis mechanisms.

An alternative approach would also be possible, depending on how we treat the unacceptability of (14), repeated below as (47):

(47) ?*Plural HN antecedent (formal c.) > Plural HN gap (semantic c.)
Moja starija **braća** navijaju za Zvezdu, a mlađi **braća**
My$_{F.S.}$ older$_{F.S}$ brothers support for Z but younger$_{M.P}$ brothers
navijaju za Partizan.
support for Partizan

One could perhaps argue that the relative unacceptability of (47) is not due to a violation of some grammatical principle, but to the fact that an expected feminine, singular concord is possible in such examples. Thus, on this view, the grammar would allow (47), but the sentence would be degraded for some speakers due to the preference for the idiosyncratic agreement, which is available in this case. On my approach this would then mean that the null proform strategy is available in both number match and mismatch contexts, while the PF-deletion strategy is restricted to contexts with matching numbers. If this is the case, we have a simple generalization: PF-deletion can only apply at the NumP level and, naturally, requires feature identity between the gap and the antecedent. Thus, a plural gap has to anteceded by a plural noun for PF-deletion to happen. PF-deletion might also be available when a singular gap has a singular antecedent, but it is impossible to disambiguate this from the null proform use, since the HN effects discussed here involve the contrast between singular and plural.

[10] I also have to leave open the question of where exactly the feature E (involved in ellipsis in Merchant's approach) is located (whether it is KP or some other projection).

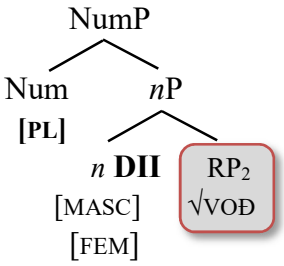
A related question is whether there is any difference in acceptability between (47) and (45) (repeated below as (48))

(48) a. Naše tate su došle, a kad vaše/?*vaši **tate** dolaze?
Our dads are come and when your$_{F.PL}$/your$_{M.PL}$ come
'Our dads came, and when are yours coming?
b. Naše vođe su došle, a kad vaše/?*vaši **vođe** dolaze?
Our leaders are come and when your$_{F.PL}$/your$_{M.PL}$ come
'Our leaders came, and when are yours arriving?

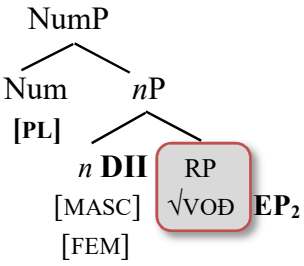
Although there was some variation among the speakers I consulted, I could not establish any substantial difference between them. To my ear, (48) with the semantic reading is actually worse than (47). I personally find (47) acceptable, but perhaps somewhat strange because of the preference for formal concord mentioned above. For speakers with this grammar, we would have to explain why (48) is excluded but (47) is not, if in matching contexts both types of ellipsis strategies are available. That is, why is the null proform strategy apparently not available for the *tata/vođa* HNs in matching contexts like (48)?

The question is very subtle, but it could be related to the fact that a singular noun *tata* 'dad' and its plural version *tate* 'dads' belong to the same natural category in terms of form. That is, in both singular and plural, one can immediately say just by looking at the case endings that this is declension II. It is then not implausible to assume that *n* of these nouns is specified for a declension II diacritic in both singular and plural. We can further assume that in the case of null proform, *n* acquires this diacritic via coindexation, which is in turn responsible for the presence of feminine gender on *n* (see Despić 2017 for details):

(49) **ANTECENDENT**



GAP



It could be then that the neutralizations of semantic gender in plural are conditioned not by the presence of the Root (as in (32b), but by the presence of this diacritic, as below:

(50) a. *[[PL], [GEN]$_{SEM}$, [GEN]$_{D}$, [NOM]]/+____]$_{W}$
b. [GEN]$_{SEM}$→ ∅/ [___ [GEN]$_{D}$ [PL] [NOM] DII]

For speakers with this rule, semantic masculine will be deleted in plural regardless of whether the root is present. Thus, the null proform strategy is available even in cases like (48) as well, but it inevitably leads to deletion of masculine due to (50b).

Note, finally, that in contrast to *tata/tate, brat* 'brother' and *braća* 'brothers' do not belong to the same natural category, in terms of form. They are quite different - the only thing they share is the same root, but they belong to different declensions and one cannot posit a rule like (50b) for these HNs-

If this speculation is on the right track then Serbian allows both ellipsis strategies in general, with a constraint that PF deletion can only apply at the NumP level and requires feature identity. This could in turn give us insight into the mechanics of PF deletion in Serbian; e.g., it could be that PF deletion can only target M-words (e.g., Embick 2010), and *n*P/RootP is by itself never an M-word. At this point, however, I have to leave full investigation of this and similar questions to future research.

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