

The Use of Collective Numeral Phrases in Bosnian/Croatian/Serbian: Morphosemantic Approach

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I. Introduction

Bosnian/Croatian/Serbian (henceforth, BCS) inherited some morphosyntactically idiosyncratic properties of the numeral system from the Common Slavic as one of South Slavic languages, along with Slovene, Macedonian, and Bulgarian. In BCS, collectivity is expressed by three different types of collective numerals, depending on the morphosyntactic or morphosemantic properties of quantified nouns. These three types are summarized as follows: i) nouns denoting collective meaning and numeral values (e.g., *dvajica* 'two', *trojica* 'three' etc.), ii) non-agreeing collective numerals (e.g., *dvoje dece* 'two children', *troje učesnika* 'three participants') indicating a group of mixed gender, and iii) agreeing numeral adjectives indicating collectivity or a pair of things (e.g., *dvoja vrata* 'two doors', *troje makaze* 'three pairs of scissors' etc.). To elude the complicate uses of the three different terms, this study will take advantage of the term 'collective numbers', which generalizes these three different types, i.e., i) collective numeral substantives, ii) collective numerals, and iii) collective numeral adjectives, respectively. The following examples illustrate the uses of the collective numbers determined by various factors of quantified nouns.

- (1) Dvojica_{COLL} dečaka_{GEN.PL} 'two boys' (collective substantive)
- (2) Dvojec_{COLL} učesnika_{GEN.PL} 'two participants' (collective numeral)
- (3) Dvoja_{COLL.PL.NOM} vrata_{PL.NOM} 'two doors' (collective numeral adjective)

As shown above, a collective substantive *dvojica* 'two' is used to indicate 'a group of male gender', while a collective numeral *dvoje* 'two' expresses 'a group of mixed gender' and collective numeral adjective *dvoja* 'two' is used for Pluralia Tantum (henceforth, PT) nouns in agreement with gender, number, case, i.e., ϕ -features.¹⁾ The detail of collective numbers will be investigated in the following sections.

With regard to the declension of BCS numeral phrases, unlike Russian numerals, BCS numerals, in general, do not decline (Belić 1962; Magner 1991; Maretić 1963; Mrazović and Vukadinović 1990; Stevanović 1970). Cardinal numerals 5 and above have only one form (*pet* '5', *šest* '6', *sedam* '7', *deset* '10' etc.). Although lower numerals (2, 3, 4) have a full set of case forms, they are usually not used (Jahić, Halilović and Palić 2000; Mrazović and Vukadinović 1990). The oblique cases of lower numerals can be occasionally observed in literary texts or more formal contexts (Alexander 2006; Maretić 1963; Raguz 1997; Šipka 2007). Another characteristic of BCS numerals is that lower numerals distinguish primary gender in all forms.²⁾ The indeclinability of BCS cardinal numerals is extended to collective

1) Pluralia Tantum nouns are those which are used only as plural forms. cf. Singularia Tantum nouns

2) In Modern Slavic there is a subcategory of gender, so-called 'secondary gender', which contains ϕ -features such as [animate]/[personal] referring to human-beings, and [masculine]/[personal]. 'The secondary genders affect only the nominative plural and the accusative (and marginally the genitive singular), and then not in all the numbers and not in all the languages.' In the plural, primary gender is observed in the direct cases of agreeing modifiers in BCS, Slovenian, and partly in Czech, while secondary gender occurs in the plural in East and West Slavic. (Sussex and Cubberly 2006: 238-239)

numerals (e.g., *dvoje* ‘2’, *troje* ‘3’, *četvoro/četvero* ‘4’, *petoro/petero* ‘5’, etc.), collective numeral substantives (e.g., *dvojica* ‘2’, *trojica* ‘3’, *četvorica* ‘4’, *petorica* ‘5’ etc.), and even collective numeral adjectives (e.g., *dvoji/dvoje/dvoja* ‘two’, *troji/troje/ troja* ‘three,’ *petori/petore/petora* ‘5’ etc.). As the shown examples below, collective numerals do not decline in case-required positions.

(4) *otac dvoje_{COLL} dece_{GEN.PL}* ‘father of two children’

(5) *kola sa dvojica_{COLL} vrata_{GEN.PL}* ‘a car with two doors’

The numeral phrase *dvoje dece* ‘two children’ in (4) is supposed to be in the genitive to modify the noun *otac* ‘father’, but it does not decline. Example (5) also shows that the collective numeral phrase *dvoja vrata* ‘two doors’ is not declinable after the preposition *s(a)* ‘with’ which takes the instrumental case.

II. Collective Numbers

In contrast to cardinal numerals used for counting quantity or specifying amount, and individuated meaning, collective numbers express collective meaning. Cardinal numerals do not denote gender specification of a group, while collective numbers do specify gender of a group when used with masculine nouns. With feminine nouns, however, cardinal numerals are used to designate gender of a group, e.g., *moje dve prijateljice* ‘my two female friends’, *pet dobrih studentkinja* ‘five good female students’ etc. In contrast, collective numbers can specify a group of males only or a mixed gender group, e.g., *dvojica studenata* ‘two male students’, *dvoje studenata* ‘two students (one male and one female)’.

1. Collective Numeral Substantives

Collective numeral nouns in *-ica*, which I will call ‘*collective numeral substantives*,’ also have numerical value and collective meaning. They express ‘totality’ or ‘the cohesiveness of members’ and are formed from the stems of collective numerals by adding the nominal suffix *-ica*. Collective numeral substantives indicate ‘a group of males only.’ These collective numeral substantives can be formed from 2 to 99 (Subotić, Dragutin, Forbes and Nevill 1918; Maretić 1963; Mrazović and Vukadinović 1990), but cannot be derived from 100 and 1000. Furthermore, these collective numeral substantives in *-ica* cannot express numbers ending in ‘1’, for example, 1, 21, 31, and 41 etc. . As a result, they have to signify those numerals with cardinal number ‘1’ as in (7).

(6) Dvadeset i *petorica* vojnika ‘25 soldiers’

(7) Dvadeset i *jedan* vojnik ‘21 soldiers’

Examples of these forms are as follows: *dvojica* ‘2’, *trojica* ‘3’, *čtvorica* ‘4’, *petorica* ‘5’, *šestorica* ‘6’…… *desetorica* ‘10’, *jedanaestorica* ‘11’ . Sometimes the phoneme /o/ before /r/ can be replaced with /e/, for example, *sedmorica* > *sedmerica* ‘7’ etc. This can be regarded as a dialectal variant, but in modern BCS both forms *sedmorica/sedmerica* ‘7’ are considered literary forms. Alexander (2006) mentioned that the /-ero/ forms are preferred in Croatian and the /-oro/ forms - in Bosnian and Serbian.

When combined with collective numeral substantives, the complement nouns should be in the genitive plural. Most of all, collective numeral substantives have case and ϕ -features, i.e., [person: 3], [number: sg.], and [gender: f.], because they are nouns that have numerical value. Collective numeral substantives have the following

declension paradigm. They decline in the oblique cases like *žena* (f.sg.) ‘a woman, wife’(see Table 1). However, as mentioned before, BCS numerals, in general, do not decline even in the oblique cases, except some literary contexts.

	Collective nouns	Quantified nouns
Nom/Voc	petorica	studenata
Gen	petorice	studenata
Dat/Loc	petorici	studenata
Acc	petoricu	studenata
Instr	petoricom	studenata

Table 1. Collective Numeral Substantive Declension Paradigm

2. Collective Numerals

Collective numerals which do not agree with nouns they modify are used with nouns indicating living things of mixed gender (Magner 1991; Mrazović and Vukadinović 1990). When the non-agreeing collective numerals are used autonomously without nouns, they designate the mixed-gender specification of human beings.

- (8) – Jeste li bili jedina Romkinja tamo?
AUX_{2PL} PART were_{PL} one_{CARD} (female) gypsi there
‘Were you the only gypsi there?’
– Ne, bilo nas je dvoje ili troje.³⁾
No, were_{NEUT.SG} we_{GEN} AUX_{3.SG} two_{COLL.NEUT.SG} or three_{COLL.NEUT.SG} .
‘There were two or three of us (men and women).’

3) Kim 2009, pp. 87; <http://www.vreme.com/cms/view.php?id=432435>

3. Collective Numeral Adjectives

The plural agreeing collective numerals, so-called '*collective numeral adjectives*', are used with inanimate PT nouns (e.g., *vrata* 'door', *makaze* 'scissors', *novine* 'newspaper', *pantalone* 'trousers', *mašice* 'tongs', *saonice* 'sledge' *naočari* 'spectacles', *terazije* 'weighing-scales' etc.) or nouns denoting paired objects (e.g. *čarape* 'stockings', *opanci* 'peasant shoes', *rukavice* 'gloves', etc.).

- (9) hladnjak sa dvoja vrata
refrigerator with_{INSTR} two_{COLL.N.PL} doors_{SN.PL}
'a/the refrigerator with two doors'

III. Collective Nouns used with collective numbers

As Stankiewicz (1986) points out, BCS plurals fit his four-fold scheme of plurals as in other Slavic languages (see Table 2): i) simple plural, ii) counted plural, iii) collective plural, and iv) counted collective plural. It is of great significance that collective plurals must be quantified by collective numbers, i.e., by collective numeral substantives, collective numerals, and collective numeral adjectives.

B C S	Simple Plural		Counted Plural	
	sinovi	‘sons’	(dva) sina	‘two sons’
	polja	‘fields’	(dva) polja	‘two fields’
	jaganjci	‘lambs’	(dva) jaganjca/jagnjeta	‘two lambs’
	pilići	‘chickens’	(dva) pilića/pileta	‘tow chickens’
	pilad	‘chickens’	dvoje jagnjadi	‘two lambs’
	jagnjad	‘lambs’	dvoje piladi dvojica studenata	‘two chickens’ ‘two students (male)’
Collective Plural		Counted Collective Plural		

Table 2. The Four-Fold Scheme of BCS Plurals (Stankiewicz 1986:155)

Feminine collective nouns in *-ad* e.g., *pilad* < *pile* 'a chicken', *prasad* < *prase* 'a pig', *momčad* < *momče* 'a boy' etc., have special morphosemantic properties: for instance, the noun e.g., *pile*, *pileta* (gen.) 'a chicken' is a neuter singular form, but it has two plural forms: one is *pilad* 'chickens', which is a feminine collective plural form, whereas the other is *pilići* 'chickens,' which is a non-collective plural form specifying the individuated meaning. The form *pilad* 'chickens' is quantified by collective numbers as in Table 2 above. In contrast to the form *pilad*, the non-collective plural form *pilići* 'chickens' is quantified by cardinal numerals. The following nouns belong to this group: *pile* 'a chicken' > *pilići* > *pilad*, *prase* 'a pig' > *prasići* > *prasad*, and *tele* 'a calf' > *телиći* > *telad*, etc.

IV. The Use of the BCS Collective Numbers

1. Masculine Nouns and Dual Gender Nouns in *-a*

As in Contemporary Standard Russian, there is a group of nouns ending in *-a*, which I call 'dual gender' nouns in BCS⁴⁾: *sudija* 'judge', *mušterija* 'customer', *pijanica* 'drunkard,' etc. This group of nouns belongs to Declension Class (henceforth, DC) II, but their gender is determined by a referent in the real world.⁵⁾ This difference between DC and gender engenders the use of the collective numbers.

4) Traditionally this type of nouns is called 'common gender noun' in Russian.

5) Wechsler and Zlatić (2003: 44) claims that dual gender nouns like *mušterija* 'a customer' and *pijanica* 'a drunkard' etc., are semantically unmarked for sex when they are used with feminine forms.

e.g. > Ta mušterija je došla.

That.F customer AUX.SG came.F

'That (male or female) customer came.' (Wechsler and Zlatić 2003: 44)

- (10) Sjede *dvojica* *pijanica* u kafani.
 sit_{3.PL} two_{COLL.F.SG} drunkard_{GEN.PL} in café.
 'There are two drunkards sitting in the café.'

Similar to dual gender nouns, whose gender is facultatively determined by a referent, some male nouns belong to DC II due to their morphological forms ending in *-a*: *komšija* (m.) 'a (male) neighbor'. The noun *komšija* 'a (male) neighbor' even has its corresponding female form *komšinica* 'a female neighbor'.

- (11) Dvojica komšija (su) umrla od infarkta u istom dvorištu.⁶⁾
 two_{COLL.F.SG} neighbor_{GEN.PL} died from heart attack in same backyard
 'Two (male) neighbors died from a heart attack in the same backyard.'

Collective numeral substantives agree with plural predicates, i.e., *su*_{AUX.3.PL} and can alternatively have semantic agreement, i.e., masculine plural *umrli*_{M.PL} for *l*-participles instead of grammatical agreement, i.e., feminine singular *umrla* like (11) above.

2. Substantivized Adjectives (Adjectival Nouns)

Substantivized adjectives, so-called *adjectival nouns*, are characterized by the mixed morphosyntactic properties from their adjectival forms and function as nouns. These adjectival nouns behave like simple nouns in all syntactic respects.

- (12) Dvoje mrtvih u Kolima Hitne⁷⁾.
 Two_{COLL.NEUT.SG} dead (people)_{GEN.PL} in ambulance

6) Kim 2009, pp. 92; <http://www.vesti.rs/Hronika/Dvojica-komsija-umrla-od-infarkta-u-istom-dvoristu.html>

7) Kim 2009, pp.93;
<http://www.aktuelnosti.com/sr/dvoje-mrtvih-u-kolima-hitne-itm65226.html>

‘Two dead people (a man and a woman) in the ambulance’

In BCS adjectival nouns are not used as commonly as in Russian. The properties of adjectival nouns, however, are related to the use of collective numbers. Especially when they are numerically quantified, adjectival nouns encourage the use of collective numbers, since once the adjectival nouns are quantified, there is no other way to express the genders of the group members, i.e., if the group members are all male, collective numeral substantives (e.g., *dvojica* ‘2’, *trojica* ‘3’, *četvorica* ‘4’, *petorica* ‘5’...etc.) are used, while if the members are in a mixed group of males and females, then collective numerals (e.g., *dvoje* ‘2’, *troje* ‘3’, *četvoro* ‘4’, *petoro* ‘5’...etc.) are utilized instead of collective numeral substantives.

3. Collective Nouns indicating ‘person, people’: *deca* ‘children’ vs. *braća* ‘brothers’

As mentioned by Stankiewicz, collective nouns, e.g., *deca* ‘children’, *braća* ‘brothers’, *gospoda* ‘gentlemen’, etc., can be quantified by collective numbers, since they have inherent collective meanings, which do not match their forms. In the case of *deca* ‘children’, the collective noun *deca* ‘children’ does not specify one gender, because the noun *deca* ‘children’ embraces both male and female children, regardless of the potential combinations of a group: males only, females only, and mixed gender. In this respect, the collective noun *deca* ‘children’ must be quantified by a collective numeral, but not by collective numeral substantives, since the noun *deca* ‘children’ lacks the gender distinction of boys from girls by the word itself.

(13) Majka iz plamena spasla dvoje/*dvojica dece.⁸⁾

Mother from fire saved two_{COLLNEUT.SG} children_{GEN.PL}

'Mother saved two children from the fire.'

Since *deca* 'children' covers the meanings of both *momak*, *mladić* 'a boy' and *devojka*, *devojčica* 'a girl', the collective noun *deca* 'children' cannot be used with collective numeral substantive *dvojica* '2' that specifies only 'a male group' as in (13). In addition, it is significant that *deca* 'children' has the plural meaning, but has a singular declension paradigm like *žena* 'a woman'.

As opposed to *deca* 'children,' collective noun *braća* 'brothers' has the corresponding countable forms of the noun for lower numbers (2, 3, 4), e.g., *dva brata* 'two brothers', *tri brata* 'three brothers' etc. More than four of the noun cannot be quantified by cardinal numerals: **pet bratova* '5 brothers', **šest bratova* '6 brothers', and **deset bratova* '10 brothers', etc. Instead, collective numerals are used with the collective form of the noun *braća* 'brothers' to express higher numerals: *petorica braće* '5 brothers', *šestorica braće* '6 brothers', *desetorica braće* '10 brothers,' etc.

4. Personal Pronouns

When used with collective numbers, personal pronouns should be in the genitive case, i.e., *nas dvoje* 'the two of us (e.g., a man and a woman)', and *njih troje* 'the three of them (e.g., mother, father, and son)'. Both examples have the implication that the group consists of members of each gender. They can stand freely before or after the numerals, regardless of their types, either collectives or cardinals as below in (14) and (15).

(14) *Nas trojica smo bila/bili u Beogradu.*

8) <http://www.totalportal.net/vojvodina/majka-iz-plamena-spasla-dvoje-dece>

*we*_{GEN} *three*_{COLL} were in Belgrade

'The three of us were in Belgrade.'

(15) *Tada ćemo se sastretati nas tri.*

Then will meet (one another) *we*_{GEN} *three*_{COLL}

'The three of us will meet (often) then.'

The BCS collective numbers distinguish a group of male members only from a group of mixed genders. This special function is effectively inspired by the lack of gender distinction of pronouns in the plural. That is, pronouns can be differentiated in gender by the combination with either collective numerals (males plus females) or collective numeral substantives (males only). As illustrated in (14) and (15), the collective numeral substantive *trojica*_{COLL} 'three' in (14) represents a male group indicated by the pronoun *nas* '*we*_{GEN}', whereas the cardinal numeral *tri*_{CARD} 'three' in (15) denotes a group of females only.

5. Collective Nouns indicating animals.

Collective nouns are, in general, quantified by collective numerals. In BCS it is observed that some collective nouns have the corresponding countable forms. As Stankiewicz mentioned, there are countable collective plural forms, which must be quantified by collective numerals: *pile* 'chicken', *prase* 'pig', *tele* 'calf', and *jagnje* 'lamb' etc. Some nouns with the neuter suffix *-et* (< Proto-Slavic **-ent*) in the singular utilize a feminine collective noun in *-ad* to express the plural meaning. These kinds of collective nouns belong to DC III, or '*stvar*-type,' except for the non-modified variations in *-ma*, *-ima*, e.g., *jednom reči* 'in a word'.

		pīle ‘chicken’	prase ‘pig’	tele ‘calf’	momče ‘men, crew’
Gen.Sg.		pil-et-a	pras-et-a	tel-et-a	momč-et-a
Pl.	N/A	pil-ad	pras-ad	tel-ad	momč-ad
	G/D	pil-ad-i	pras-ad-i	tel-ad-i	momč-ad-i
	I	pil-ad-i <i>pil-ad-ma</i> <i>pil-ad-ima</i>	pras-ad-i <i>pras-ad-ma</i> <i>pras-ad-ima</i>	tel-ad-i <i>tel-ad-ma</i> <i>tel-ad-ima</i>	momč-ad-i <i>momč-ad-ma</i> <i>momč-ad-ima</i>

Table 3. Feminine Collective Nouns in - *ad*

These collective nouns in - *ad* are all feminine singular nouns, but have a plural meaning. They usually have plural agreement of the corresponding predicates.⁹⁾ This is the same case with *deca* ‘children,’ e.g., *mala deca su_{PL} spavala* ‘the little children were sleeping.’ Raguž claims that either singular or plural of the predicate is correct with these nouns.¹⁰⁾

(16) Mlada prasad su stigla.
 young_{F.SG} pig_{COLL.FSG} AUX_{PL} arrive_{F.SG}
 ‘The young pigs have arrived.’

6. Pluralia Tantum Nouns

Agreeing collective numerals, namely collective numeral adjectives, behave like regular adjectives in all aspects except two things: i) they are always used in the plural and ii) they do not decline in case-required positions as other collectives. These numeral adjectives

9) *Momčad* ‘men, crew’ is usually accompanied by singular forms, e.g., *mlada momčad je došla* ‘the young people have come’. (Magner 1991: 228)
 10) Raguž (1997) accepts the possibility of either plural or singular for feminine collective nouns in -*ad*. e.g.> *Telad pije(3.sg.) vodu/piju(3.pl.) vodu.*
Telad je(3.sg.) debela./Telad su(3.pl.) debela.
Momčad je(3.sg.) vesela./Momčad su(3.pl.) vesela.
Čeljad je(3.sg.) gladna./Čeljad su(3.pl.) gladna.

enable PT nouns to be quantified to express the cardinality of the item modified. Non-agreeing collective numerals are utilized ‘especially when numbers of living things of mixed genders are indicated’ . Nouns accompanied by the collective numerals are required to be in the genitive. In other words, adjectival collective numerals are not used with nouns indicating human beings or animate beings. In BCS inanimate nouns are mostly restricted to use with adjectival collective numerals. These nouns used to be used with old duals, which indicate the cardinality of ‘two’ or nouns of ‘paired objects’. After the loss of duals, collective numerals superseded this function of duals.

V. The Analysis of the BCS Collective Numerals

This section will perform the morphosemantic analysis of collective numerals and nouns which they modify. This research benefits from Rappaport’s (2007) lexical approach to agreement mismatch, which is based on the interrelationship between the semantic information of lexicon and its formal interpretation. To analyze “Agreement Mismatch, whereby agreement targets in different environments share a single controller but morphologically express different values for the same category”, he sought descriptive and formal analyses by formulating a chart of “extended minimal lexical representation”, which is developed from “minimal lexical representation (henceforth, MLR)” containing non-redundant inherent features of a lexical item . In order to express the semantic and grammatical information of nouns combining with collective numerals, this research utilizes a modified version of MLR, which encompasses the following features: e.g., [cardinality]/[number] and [personal]/([virile]).

On the basis of these feature-valuing mechanisms, this approach to BCS collective numbers will be useful, because collective numbers are selected by the semantic or morphological properties of nouns, which serve as syntactic heads. The semantic properties of nouns shed light on the choice among numerals: cardinal numerals, collective numeral substantives, collective numerals, and collective numeral adjectives. The syntactic investigation on syntactic properties of BCS collective numbers will be excluded here for further investigation.

1. Lexical Analysis

The choice among the collective numbers - collective numeral substantives (e.g., *dvojica* 'two', *trojica* 'three', *petorica* '5' etc.), collective numerals (e.g., *dvoje* '2', *troje* '3', *četvoro* '4', *petoro* '5', *desetoro* '10' etc.), and collective numeral adjectives (e.g., *dvoji* (m.pl.), *dvoje* (f.pl.), and *dvoja* (n.pl.) '2') - is closely related to the semantics of nouns that follow them. Nouns have ϕ -features [person:], [number:], [gender:], and even [case:]. The case feature is purely syntactic, but it is associated with other ϕ -features, whose combination within the phrase represents the morphosyntactic properties of the Slavic numeral expressions.

To facilitate the semantic investigation of lexical items, the above-mentioned Minimal Lexical Representations (henceforth, MLR) by Rappaport (2007) will be utilized not only for the semantic properties, but also for the morphological properties. The following chart of MLR is illustrated as follows:

/ Phonemic form / ‘ Meaning ’	
Meaning	Noun
R-features	F-features
	[declension class:]
[animal:]	[animacy:]
[sex:]	[gender:]
[personal:]	
[cardinality:]	[number:]

Table 4. Minimal Lexical Representation

As shown in Table 4 above, MLR is composed of two separate columns: the left one is for R(eferential) features and the right one is for F(ormal) features. R-features are associated with the lexical meaning of a real world referent, while F-features are related to the grammatical forms. Let us take an example as follows:

- (17) a. Ta *mušterija* je došla
That_F customer_{F.SG} AUX_{SG} came_F
‘That (male or female) customer came.’
b. Taj *mušterija* je došao.
That_M customer_{M.SG} AUX_{SG} came_M
‘That male customer came.’

In (17a) dual gender noun *mušterija* ‘a customer’ exhibits the morphosemantic mismatch between the morphological ending *-a* determining DC II and the gender of the referent in the real world. In the case of (17a) the noun *mušterija* ‘a customer’ can be either male or female, when the dual gender noun *mušterija* ‘a customer’ has grammatical agreement. Contrary to (17a), (17b) indicates that *mušterija* ‘a customer’ is male, when the modifier *taj* ‘that’ agrees with the noun. In this case, the [sex: m] feature in R-features determines the [gender: m] feature in F-features regardless of the morphological ending. This is

called ‘*the morphosemantic rule*’ as shown in Table 5 below.

/ <i>mušterija</i> / ‘ a customer ’	
Meaning	Noun
R-features	F-features
	[declension class: II]
[animal: +]	[animacy: +]
[sex: m.]	[gender: m.]
[personal: +]	
[cardinality: +]	[number: sg.]

Table 5. Dual gender noun in -a:

It is observed that the [sex: m] feature of the referent determines the value of grammatical gender, or [gender: m]. That is, the morphosemantic rule applies to solve the problem caused by the mismatch between the semantics and morphology of this lexical item. Taking into account this morphosemantic mismatch, one can understand how the form *mušterija* ‘a customer’ can indicate both a male and a female, depending on gender of a real world referent. Once [case:] features are valued from an upper projection purely by a syntactic operation, any lexical items are visible and they are ready for spell-out. Assuming that [case: nom] is valued, the word *mušterija* ‘a customer’ spells out as [mušterij-a] in the nominative case, since it has a morphological desinence -a, which is determined by its morphology, namely DC II. In other words, the [declension class:] feature is determined by the morphological ending -a of the lexical item, while the [sex:] feature is determined by the natural sex of a real world referent. If the referent is female, then the [sex: f] feature determines the [gender: f] feature.

2. Gender specification of group members

Unlike Russian collective numerals, whose use is restricted to certain groups of nouns, BCS collective numbers can serve to specify the gender of the group. For example, the collective numeral substantives, i.e., *dvojica* '2', *trojica* '3', *četvorica* '4', *petorica* '5' etc., designate a group of male members only. The collective numerals, i.e., *dvoje* '2', *troje* '3', *četvoro* '4', *petoro* '5' etc., indicate a group of mixed gender, whereas the cardinal numerals, i.e., *dva* '2', *tri* '3', *četiri* '4', *pet* '5', etc., do not include any specification of genders of the components of a group. In other words, the cardinal numeral phrase *tri studenta* 'three students' does not reveal any gender specification, but it rules out the case of 'three female students'. Three female students must be expressed by cardinal numerals plus female nouns, i.e., *tri studentice* 'three female students' (Alexander 2006; Magner 1991; Mrazović and Vukadinović 1990). Cardinal numerals used with feminine nouns serve to indicate a group of female only, while cardinal numerals used with masculine nouns cannot serve this function, i.e., do not indicate gender specification of a group. In (18) the collective numeral substantive *dvojica* '2' indicates a group whose members are all male, while in (19) the collective numeral *troje* '3' designates a group of mixed gender. Lastly, the cardinal numeral *tri* '3' denotes a group of females only in (20).

(18) Nas dvojica su dobri drugovi.

We_{GEN} two AUX_{PL} good_{PL} friends_{SPL}

'Three of us are good friends.'

(19) Uskoro će ih biti troje.

Soon will they_{GEN} be three_{COLL}

'Soon they will be three.'

(20) Tada ćemo se susretati nas tri.

Then will_{PL} meet we_{GEN} three_{CARD}
 ‘The three of us will meet (often) then.’

3. Individuated meaning vs. Collective meaning

In BCS, masculine nouns indicating animate beings can be used with collective numeral substantives to express gender specification or emphasize a collective meaning, or the totality of the group, or the cohesiveness of the group as an aggregate. For neuter nouns indicating animate beings, the collective numerals (e.g., *dvoje*, *troje*, *petoro*, etc.) are employed to express a mixed-gender group and even collective meanings.

- (21) ... zbog čega sam otvorio farmu piladi
 ... (is) why AUX_{LSG} opened_M a farm of chickens_{COLL.F.SG.GEN}
 i imam 320 pilića¹¹⁾.
 and have 320 chickens.

‘... (is) why I opened a chicken farm and (now) have 320 chickens.’

Example (21) exhibits the difference between individuated and collective meanings. The phrase *farmu_{ACC} piladi* ‘a farm of chickens’ represents the collectivity as an aggregate. It is the farm where they raise chickens. No individuated meaning is needed for this context, but the phrase *320 pilića* ‘320 chickens’ emphasizes ‘the number of the individuated chickens’ living in the farm now.

A noun *pile* ‘a chicken’ is neuter singular, but when it is quantified by cardinal numerals, it must add the suffix *-et* to its stem. Moreover, it has a different plural form *pilići* ‘chickens,’ which

11) Dan online, Što grad uništi, vlast ne popravi, <http://www.dan.cg.yu/index.php?nivo=3&rubrika=Regioni&datum=2007-06-26&clanak=106988> (cf. Kim 2009 (pp. 104)

highlights the individuated meaning. (Magner 1991; Maretić 1963; Stevanović 1970). For instance, *jedno pile* 'one chicken', *dva pileta* 'two chickens', *pet pilića* 'five chickens,' etc. The collective feminine form *pilad* 'chickens' is used to emphasize the totality of the group of 'chickens', but not the individuated meaning of the group members.

VI. Conclusion

In this article I analyzed the general uses of collective numeral forms in BCS, so-called 'collective numbers' and the interrelationship of morphosemantic factors of nouns. The uses of collectives are closely related to morphological and semantic factors of quantified nouns. BCS collectives emphasize totality or gender specification of a group, depending on the use of three different collective number forms: i) collective numeral substantives for a group of males only, ii) collective numerals for a group of mixed genders, and iii) cardinal numerals for a female-only group. In order to clearly account for the interactions of collective numbers to quantified nouns, I take advantage of MLR (Minimal Lexical Representation) to analyze the morphosemantic properties of quantified nouns used with collective numbers. This research provides a good opportunity to define the properties of BCS collective numbers and offer some pedagogical benefits to use them properly for BCS learners at any level.

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Abstract

The Use of Collective Numeral Phrases in Bosnian/Croatian/Serbian: Morphosemantic Approach

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The purpose of this research is to analyze three different types of collective numeral forms and their grammatically appropriate uses in Bosnian/Croatian/Serbian (BCS). BCS collective numbers, i.e., i) collective numeral substantives, ii) collective numerals, and iii) collective numeral adjectives, are used to emphasize the meaning of totality or gender specification of a group. Collective numeral substantives denote a group of males, whereas collective numerals specify a group of mixed genders. The uses of these three forms of collective numbers are determined by the properties of quantified nouns. These nominal morphosemantic properties triggering a series of anomalies in numeral phrases can be analyzed by Minimal Lexical Representation (MLR), which portrays the dichotomous description of nouns between formal/ grammatical analysis and semantic analysis. MLR can provide a better explanation for nouns with a mismatch in morphology and semantics, i.e., morphosemantic mismatch, e.g., dual gender nouns, which belong to declension class II (feminine nouns in - a), but indicate male persons. Furthermore, the analysis of collective numbers in BCS can benefit not only a linguistic explanation, but also an effective learning of BCS numerals from a pedagogical perspective.

Key-words : Bosnian/Croatian/Serbian(보스니아어/크로아티아어/세르비아어), collective numerals(집합수량사), Minimal Lexical Representation

(최소어휘표상), morphosemantics(형태의미론), gender specification(성 특
정성), collectivity/totality(집합성/전체성)

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