Observations on Collective Numerals in Standard Croatian*

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Abstract: In present-day Croatian there is quite a large discrepancy between the actual usage of numerals and their description in major normative works. This discrepancy seems to be most present in the case of collective numerals, which are normally described as quantifiers for the elements making up a group of mixed gender. The actual usage of many instances of declensions and agreement of collective numerals often remains unexplained. In the classic Hrvatska gramatika (Barić et al. 2005: 219), for example, seven different forms are given for the dative as well as the locative case and four different forms for the genitive. When or how exactly a specific form is used remains unclear. Most Croatian grammars pay very little attention to the agreement of collective numerals and give only nominal agreement in the genitive and some remarks on possible verbal agreement in the singular and the plural. Conditions for the choice between the alternatives are generally not discussed. This paper attempts to distinguish between the morphological and semantic principles of classification. Furthermore, it describes and discusses the declension, distribution, and agreement of collective numerals in present-day spoken Croatian. This is done without adopting a theoretical stance: this study is limited to the comparison of the treatment of collective numerals in different grammars, and the investigation of the extent to which this treatment reflects the actual usage as found in hits sampled from the Internet and the Croatian National Corpus (HNK).

1. Introduction: Collective Quantifiers

Croatian numerals present an extremely interesting area of study because of their diversity, their complex morphology, and the specifics of

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their distribution. This especially holds for collective quantifiers. However, the current state of research on collective quantifiers within the system of numerals in standard Croatian is incomplete and unsystematic. In existing descriptive and normative works where these quantifiers typically appear under the headings "collective," "adjectival," and "substantive," morphological and semantic principles of classification are often inadequately distinguished. Moreover, the declensions of the various collective quantifiers in such works are generally based on bodies of texts, the language of which is either dated or dialectal and no longer illustrates the living standard language. There are discrepancies between different grammars with regard to classification, description of declensions, distribution, and agreement. For example, some authors (Maretić 1889/1963, Silić 2005, Marković 2012), classify collective quantifiers of the type dvoje, troje..., as brojevne imenice (numerical nouns), others (Pranjković 1984) as neuter forms of brojevni pridjevi (numerical adjectives), and yet others (Barić et al. 2005, Tafra 2005) as zbirni brojevi (collective numerals).

In this paper, I utilize data sampled from the Internet and the Croatian National Corpus (HNK)¹ to investigate actual usage. With this data, I describe and discuss the declension, distribution, and agreement of collective numerals in present-day spoken Croatian.²

My classification of collective quantifiers consists of three groups: (a) "collective numerals," (b) "numerical adjectives," and (c) "numerical nouns." In spite of their varying classifications, normative grammars³ largely agree on the following rules for usage:

(a) Collective numerals such as *dvoje* 'two', *troje* 'three', *četvero* 'four', *petero* 'five', etc. are used to denote members of a group of persons of mixed gender, signified by a masculine noun in the plural when denoting persons (e.g., *troje ljudi* 'three people', *petero putnika* 'five travellers') or feminine collective nouns—singularia tantum ending in *-a* or *-ad* when denoting living

¹ HNK-Hrvatski nacionalni korpus, http://www.hnk.ffzg.hr

² Other types of so-called "collective quantifiers" count groups themselves, pluralia tantum, etc., but these are not the main focus of this paper.

³ I consider Barić et al. (2005) and Silić (2005) as normative grammars. Raguž (1997) and Tafra (2005), in contrast, are descriptive rather than normative works.

beings regardless of gender⁴ (e.g., *dvoje djece* 'two children', *troje teladi* 'three calves', *četvero unučadi* 'four grandchildren'). It should be mentioned that these numerals are also used independently, mostly to refer to abstract notions (*ovo dvoje* (*religija i horoskop*) *je nespojivo* 'these two (religion and horoscope) are incompatible').⁵ Collective numerals occur in neuter grammatical gender and exclusively in singular form.

- (b) Numerical adjectives such as *dvoji,-a,-e* 'two', *troji,-a,-e* 'three', *peteri,-a,-o* 'five' (e.g., *dvoje čarape* 'two pairs of socks', *troji svatovi* 'three groups of wedding guests', *petora vrata* 'five doors') are used with nouns that refer to separate pairs (*čarape* 'socks') and groups (*svatovi* 'wedding guests') as well as for pluralia tantum (*vrata* 'door'). These numerical adjectives exclusively occur in plural form.
- (c) **Numerical nouns** (which are feminine nouns ending in *-ica*), such as *dvojica* 'two', *trojica* 'three', *petorica* 'five' (e.g., *dvojica braće* 'two brothers', *trojica igrača* 'three players', *petorica putnika* 'five travelers') are used for counting male persons. These numerical nouns exclusively occur in singular form.

In the following sections I focus on the declension, distribution, and agreement of collective numerals as described in the existing grammars compared with the usage in practice. Where necessary, I will also comment on other kinds of collective quantifiers, i.e., numerical

⁴ These singularia tantum serve as the collective plural ("zbrojina"; cf. Peti 2001) of corresponding neuter nouns that do not have regular plural forms (e.g., *djeca*, coll. of *dijete* 'child', *telad*, coll. of *tele* 'calf', *unučad*, coll. of *unuče* 'grandchild').

⁵ Some grammars mention that this type of quantifier may also accompany the noun *jaje* 'egg'. Peti (2001) says that there is a semantic difference between use with cardinal numerals, which denote the amount only, and collective numerals, which denote "eggs of different characteristics" (*ako je riječ o jajima različitih svojstava*). The Croatian National Corpus provides no proof of the noun *jaje* ever being used in connection with a collective numeral. On the Internet, when this noun appears with a collective numeral, it is usually with the numeral *dvoje* and less frequently with the numeral *troje*. Most hits involve examples with the numeral *petero*, but these seem less significant when one realizes that they constitute, in fact, only two cases, both of Bosnian origin, one of which is a joke, the other, rap lyrics. Importantly, more than 99% of the remaining hits of the noun *jaje* with a numeral are cases with (non-collective) cardinal numerals (*tri jaja/jajeta, pet jaja*).

adjectives and numerical nouns. However, these latter forms are not discussed in detail in this paper.

The morphology and agreement of collective numerals (quantifiers of the type *dvoje*, *četvero*, *petero*, etc. mentioned in (a) above) are described in a variety of ways. For example, different forms are given for the same grammatical case of collective numerals, e.g., dative-locative-instrumental (DLI) *četvorma* in Silić and Pranjković 2005 and *četverima* in Barić et al. 2005. Both grammars also contain forms for which there is no evidence in the corpora (e.g., genitive (G) *četvorga*).

There is also considerable disagreement on the distribution of collective numerals, which depends on the features of the nouns they are combined with (e.g., usage with nouns that denote male persons; cf. 3.1). In addition, the descriptions in the existing grammars differ from the usage in practice. All this demonstrates the need for clarity in this complex matter.

One cause of the variety in the descriptions and of the confusion among the speakers as to "correctness" in the use of collective numerals may be the fact that the Croatian linguistic standard is based on the Štokavian dialect, whereas many speakers of Croatian have a Kajkavian or Čakavian background. Collective numerals in these dialects have rather different distribution and usage than in the majority of Štokavian dialects; it appears that in some Kajkavian and Čakavian dialects certain subclasses are even lacking altogether (see Pranjković 2000: 87).

2. Declension of Numerals

Before discussing collective numerals it is important to point out that in Croatian some numerals are inflected while others are not. I think it is relevant to give a short survey of this subject as inflected forms are discussed below.

The declension of the cardinal numeral 'one' is that of an adjective (Nsg m *jedan*, Nsg f *jedna*, Nsg n *jedno*; Gsg m/n *jedno*g, Gsg f *jedne*, etc.).

The cardinal numeral 'two' has two sets of forms: one when combined with masculine and neuter nouns (nominative-accusativevocative (NAV) *dva*, genitive (G) *dvaju*, dative-locative-instrumental (DLI) *dvama*), and the other when combined with feminine nouns (NAV *dvije*, G *dviju*, DLI *dvjema*). The declension of the cardinal numerals 'three' and 'four' is the same for all genders (NAV *tri/četiri*, G *triju/četiriju*, DLI *trima/četirima*).⁶

Cardinal numerals higher than 'four' are not inflected in Croatian. It is important to note that in compound numerals higher than 'twenty' the last basic numeral is inflected, when this concerns 'one', 'two', 'three', or 'four' (for example, in *dvadeset jedan* '21', *jedan* '1' is inflected).

Ordinal numerals (*prvi* 'first', *drugi* 'second', etc.) behave as adjectives. They are, however, beyond the scope of this paper.

Collective numerals follow specific declensions, which are discussed below in section 2.1. Numerical adjectives follow the regular plural declension for adjectives. Numerical nouns follow the regular singular declension for nouns ending in *-a*.

It should be mentioned here that nouns, adjectives, and adjectival pronouns quantified by the numerals 'two', 'three', and 'four' (and corresponding compound numerals) have a particular form, a remnant of the Proto-Slavic dual declension called the "small plural," "234 form," or "paucal" (Browne 1993: 373) which is morphologically identical to the Gsg. This is in contrast to the "large plural," or simply "plural," which is used for nouns quantified by numerals higher than 'four'. See Table 1 on p. 8.

As may be surmised from this introduction, there is considerable disagreement on the question of how numerals are, or should be, used. Tafra wrote a number of noteworthy papers on this subject (collected in Tafra 2005), in which she identifies shortcomings of the available descriptions of collective numerals in Croatian. However, a comprehensive comparison of the formal descriptions provided in the literature with actual usage is still lacking. In this paper I attempt to show that such an approach can yield some interesting insights into the matter.

⁶ Leko (2009: 96) puts these forms under "adjectival numerals" as adjectival forms of the cardinal numerals which appear only in oblique cases.

Type of Numeral	Function	Declension
Cardinal numerals	quantity	1: adjective declension
jedan 'one', dva/dvije		2–4: specific
'two', <i>tri '</i> three', <i>četiri</i>		declension
'four', pet 'five'		5 and higher:
		indeclinable
Ordinal numerals	position in order/series	full adjectival
prvi, -a, -o 'one', drugi,		declension (all three
-a, -o 'two', treći, -a, -e		genders)
'three', četvrti, -a, -o		
'four'		
Collective numerals	• reference of mixed gender	specific declensions
dvoje 'two', troje 'three',	• (number of) living beings	
četvero 'four'	denoted by feminine col-	
	lective nouns in -a or -ad	
	 in independent use: ab- 	
	stract notions	
Numerical adjectives	• (number of) pairs	regular adjectival plu-
dvoji, -e, -a 'two', troji, -e,	• (number of) groups	ral declension (all
-a 'three', četveri, -e, -a	• (number of) pluralia tan-	three genders)
'four'	tum nouns	
Numerical nouns	(number of) male persons	delension as feminine
dvojica 'two', trojica		nouns in -a (only
'three', četvorica 'four'		singular forms)

Table 1. Concise overview of the numerals in Croatian

2.1. Existing Descriptions of the Morphology of Collective Numerals

Compared to the 1979 edition, hardly any changes have been made to the description of collective numerals in the latest edition of *Hrvatska gramatika* (Barić et al. 2005: 219). The seven forms listed for the numbers 'two' and 'four' in the DLI have remained the same for DL. However, only those forms which are in fact numeral adjectives are now listed also for the I: 1979:

	NAV	dvoje	četvero, četvoro
	G	dvojeg(a), dvojga, dvoga, dvog	četverga, četvorga
	DLI	dvojem(u), dvom, dvome,	četvermu, četvormu,
		dvojima, dvojim, dvoma	četvorme, četverim(a),
			četvorim(a)
2005:			
	NAV	dvoje	četvero, četvoro
	G	dvojeg(a), rj. dvojga, ⁷ dvoga, dvog	četverga, četvorga
	DL	dvojem(u), dvom, dvome	četvermu, četvormu,
		-	četvorme
	DLI	dvojima, dvojim, dvoma	četverim(a),
			četvorim(a)

Unfortunately, no explanation is given to clarify the conditions under which particular forms are to be used.

In Babić et al. 1991: 667, the forms for *dvoje* are almost the same as in Barić et al. 2005. Only the form *dvojga* is omitted. Moreover, no separate forms for DL are given; they are listed together with the instrumental case as DLI forms. Regarding numerals formed with the suffix *-ero* (*-oro*), Babić et al. note that the G *troga*, *četverga*, *četvorga* and DLI *četverma*, *četvorma* are rarely used and can be considered obsolete. In accordance with this, they are left out of the paradigm of *četvero*, which is given as follows:

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NGAV četvero
DLI četverim(a), četvorim(a)
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On the basis of her research into the morphological characteristics of countable words, Tafra (2005: 49) postulated three types of declensions for the collective numerals, using the example of the numeral 'two'.

The first concerns independent use referring to nouns signifying abstract notions and inanimate entities:

⁷ The abbreviation "rj." stands for *rjeđe* 'more rarely'. In the HNK there are no attestations of this form, and on the Internet there are no more than ten hits, most of which are dialectal.

NA	dvoje
G	dvojega/dvoga
D	dvojemu/dvomu
L	dvojem/dvome
Ι	dvojim

For example, *dvojemu* [D] *se nadam* 'I hope for two things' and *bojim se dvojega* [G] 'I am afraid of two (things)'.

The second type contains the forms that are combined with (pro)nouns that refer to persons:

NAG dvoje DLI dvoma

These forms must either be preceded by a pronoun (*nama/ovima dvoma* [D] 'to the two of us/to these two') or followed by a plural form of a noun (*bojim se dvoje* [G] *ljudi* 'I am afraid of two people').

Tafra distinguishes a third type in which the numeral is not declined. This concerns cases when the collective numeral is combined with collective nouns that are uncountable words (*dvoje djece*). Such combinations may be preceded by a preposition which requires D, L, or I (*Ona dolazi s dvoje djece* 'she comes with two children'), but cannot be used in positions that normally require D, L, or I (**Ona piše dvoje djece* 'She writes to two children').

In Silić and Pranjković (2005: 145), collective numerals are not mentioned as a separate subclass but classified as *brojevne imenice* (numerical nouns), together with feminine numerical nouns ending in *-ica* that refer to a group of male persons. Forms of collective numerals that actually belong to two different declensions are mixed here and presented as a single paradigm: forms from the paradigm for animate nouns are listed in DLI, whereas for the genitive case the form is given for the paradigm for independent use (signifying inanimate entities and abstract notions). The DLI forms for independent use are omitted.

NAV	dvoje	četvero
G	dvoga	četvorga
DLI	dvoma	četvorma

When the forms according to this paradigm are applied to the sentence 'it's all about two (things)', which requires the locative, it results in un-

grammatical **radi se o dvoma* instead of *radi se o dvome*. Similarly, the sentence 'the rescue of four hostages', which requires the genitive, results in ungrammatical **spašavanje četvorga talaca* rather than *spašavanje četvero talaca* (the same holds true for the paradigm associated with Barić et al. 2005, given above).

2.2. Actual Usage

Internet and corpora research shows that collective numerals are not declined in common usage.⁸ Elements that could be dubbed *particularizers* are used with a cardinal numeral as a matter of course (cf. Ivić 1980; 1983: 23, who actually uses this term). Thus, instead of saying *radi se o dvome* 'it's all about two (things)', a phrase such as *radi se o dvije stvari* 'it's all about two things' is mostly used, where the word *stvari* 'things' takes on the role of particularizer. In higher registers, collective numerals are found in oblique cases, but almost always only in independent use. Furthermore, examples of numerals in oblique cases with nouns are very rare (*Dvoma stanarima* (D) *prijeti deložacija*... 'Two inhabitants are threatened with eviction...').

However, one can find oblique forms of collective numerals in cases where, in fact, cardinal numerals should be used according to the standard. This is most clearly the case when the numerals are accompanied by plural forms of feminine nouns:

- Naša kompanija bavi se dvoma specijaliziranim oblastima.
 'Our company is active in two specialized sectors.'
- (2) Oblik kamere je jako sličan prethodnim dvoma izvedbama. 'The shape of the camera is very similar to the two former versions.'

This usage comes instead of the corresponding feminine DLI form of the cardinal numeral 'two' (*dvjema*), which would be correct according to the standard.

⁸ With the exception of the numeral 'two' in DLI preceded by a personal pronoun, as in constructions such as *nama dvoma* 'to the two of us'.

The usage of these numerals is also incorrect according to the standard when they accompany masculine nouns that do not signify persons:

- (3) Tvrđava je bila opremljena dvoma planinskim topovima.'The fortress was supplied with two mountain guns.'
- (4) Ti snovi se javljaju u dvoma aspektima.

'These dreams appear in two aspects.'

This usage comes instead of the corresponding masculine DLI form of the cardinal numeral 'two' (*dvama*), which is the correct form according to the standard. These two examples clearly show that the various oblique forms are not familiar to speakers, so they easily confuse them.

In other examples, it is not clear from the context whether the collective numerals are used to signify members of a group of mixed gender or whether the collective numeral is used instead of a cardinal numeral to signify the amount only, e.g., *dvoma* (DLI collective) rather than *dvama* (DLI cardinal):

(5) Redakcija sa Šetališta Bačvice ima isplatiti po 200 tisuća kuna **dvoma tužiteljima**.

'The Šetalište Bačvice editorial office has to pay 200,000 kuna to the two accusers.'

(6) Ja bih se ovom prilikom želio zahvaliti **dvoma studentima** strojarstva.

'I would like to thank two engineering students on this occasion.'

In examples (5) and (6) the accusers as well as the students, according to the standard, should refer to a man and a woman, but in common usage could also refer to two male persons.

Raguž (1997: 112) mentions the possibility of a collective numeral being inflected when it precedes a collective noun or personal pronoun in the genitive case.⁹ He gives the following examples:

⁹ "[...] kad je lična zamjenica ili imenica iza brojevne imenice [...] onda je brojevna imenica u potrebnome padežu, a lična zamjenica i imenica u genitivu."

- 1. dvoma/troma nas treba pomoći 'two/three of us need to be helped'
- 2. *dvoma/troma od nas treba pomoći* 'two/three of us need to be helped'
- 3. trojema/troma teladi/djece/braće 'to three calves/children/brothers'

However, instead of the first example (*dvoma nas*), which is strongly marked (there are no attestations on the Internet or in the HNK), a syntagm in the dative case with the pronoun preceding the numeral (*nama dvoma*) would normally be used. I have not been able to find corpus examples of Raguž's third type (*trojema/troma teladi/djece/braće*).

In my opinion, the second example (*dvoma od nas*) is not a case of a collective numeral preceding a noun or pronoun in the genitive, but rather a of collective numeral preceding a construction with the preposition *od*, which requires the genitive.

According to Silić and Pranjković (2005), the collective numeral *dvoje je* in the syntagms *dvoje djece* 'two children' and *dvoje ljudi* 'two people' is replaced in oblique cases by a numerical adjective (e.g., G *dvojih ljudi*, DLI *dvojim ljudima*). However, I have not been able to substantiate this claim either. Nonetheless, the "replacement" in oblique cases of forms of **cardinal numbers** by forms of numerical adjectives is mentioned in several earlier grammars.¹⁰ There is indeed a strong tendency to use numerical adjectives, which have a complete plural declension, instead of those cardinal numerals that are not inflected.¹¹ Obviously, the reason for this tendency lies in the fact that speakers feel the need for a declension of syntagms with numerals higher than 'four'. There are numerous examples of this replacement, ranging from the Bible to blogs:

(7) Govoraše: "Što vidiš, napiši u knjigu i pošalji sedmerim crkvama: U Efez, Smirnu, Pergam, Tijatiru, Sard, Filadelfiju, Laodiceju."

'Saying, "Write in a book what you see, and send it to the seven churches: to Ephesus, to Smyrna, to Pergamum, to Thyatira, to Sardis, to Philadelphia, to Laodicea.'

¹⁰ Maretić 1963: 223, 231; Barić et al. 2005: 221; Silić and Pranjković 2005: 146. Raguž (1997: 113) also mentions such cases, but does not consider them to reflect correct language use.

¹¹ Silić (2005: 149) states that: "They are suited to express syntagmatic relationships of numerals that are not inflected."

It is clear here that reference is made to seven individual churches and not to seven groups of churches, which these numerical adjectives would normally signify according to established grammatical rules. In the following examples, taken from the website of the Faculty of Humanities and Social Sciences at the University of Zagreb (*Filozofski fakultet Sveučilišta u Zagrebu*), it is also clear that the numerical adjectives refer to single referents and not to groups:

(8) Novoštokavski jezik je osnova petorim standardnim jezicima – bošnjačko-muslimanskom, crnogorskom, srpskom, i hrvatskom.

'The neoštokavian dialect forms the basis for five (sic!) standard languages – Muslim-Bosnian, Montenegrin, Serbian, and Croatian.'

(9) [N.N.] je mentorica **petorim studentima** za izradu i obranu diplomskoga rada.

'[N.N.] is thesis supervisor to five undergraduate students.'

There are also examples of declined numerical adjectives with feminine nouns:

(10) A ponudivši **petorim glumicama** da zaigraju muškarce izazvao je snažnu napetost na sceni i u publici.

'For having let five actresses play the roles of men, he provoked a powerful reaction from the audience.'

2.3. Summary

The situation could thus be described as proposed by Tafra (2005: 49).

First, in independent use, the collective numerals 'two' and 'three' end in *-oje* in NAV, in *-ojega/-oga* in G, in *-ojem/-ome* in L, and in *-ojim* in I. Demonstrative pronouns determining these numerals are declined as neuter singular:

(11) Ako nije problem u ovom dvome, ne vidim ga nigdje drugdje.'If the problem is not in these two things, I don't see it anywhere else.'

(12) I tada se događa jedno od **ovoga dvoga**:

'And then one of these two things happens:'

In the corpora I investigated, no oblique case forms of numerals higher than 3 are found in this category.

Second, when referring to persons, collective numerals have the forms *dvoje, troje, četvero, petero,* etc. in NGAV and *dvoma, troma, četver-ma* in DLI. I did not encounter collective numerals higher than 'four' in DLI.

Compare the following examples:

- (13) Ovim troma je pomoglo.'It helped the three of them.'
- (14) [...] kako bi tim **dvoma ljudima** dao novac.

'... so that he could give money to these two people.'

Finally, according to the hits found in the corpora, no oblique forms of collective numerals occur in combination with feminine singularia tantum ending in *-ad*, which denote living beings. This also holds for combinations with the nouns *djeca* 'children' and *braća* 'brothers'. One could imagine that the numerals would take the declension as normally used for persons (as in the example with *dvoma ljudima* above), but clearly the lack of plural forms for these nouns makes this impossible.

3. Distribution of Collective Numerals

The distribution of collective numerals partially overlaps with the distribution of numerical adjectives¹² and numerical nouns, particularly in colloquial usage. One of the reasons for this lies in the fact that, compared to the standard language based on the grammatical system of the neoštokavian dialect, collective quantifiers are less frequent in the majority of other Croatian dialects. This makes their actual usage and distribution different from the grammatical norm.

In section 1 it was mentioned that the various grammars agree on the whole, that collective numerals are used with, among others, feminine collective nouns ending in *-a* and *-ad* denoting living beings. The

¹² Cf. Stefanović 2014.

nouns ending in *-ad* form a large and productive group (e.g., denoting groups of young animals such as *telad* 'calves', *jarad* 'young goats', etc.). There are only four usually cited collective nouns denoting living beings ending in *-a: djeca* 'children', *braća* 'brothers', *gospoda* 'gentlemen', and *vlastela* 'landowners'. Since the noun *djeca* fulfills all the morphological and semantic conditions for usage with collective numerals, like the nouns ending in *-ad* (corresponding neuter singular form, denoting a group of mixed gender), I focus on the other three nouns below.

3.1. The Noun braća

The noun *braća* deserves additional attention for two reasons. Firstly, like the nouns *gospoda* and *vlastela*, it differs from other collective animate nouns accompanied by collective numerals in that it has a corresponding masculine singular noun (*brat*) instead of a neuter one (e.g., *djeca* ~ *dijete*). Secondly, the members of the collective denoted by this noun are not of mixed gender, which is the general condition for use with a collective numeral.

The tendency for this noun to take a collective numeral (e.g., *dvoje braće*) can be explained by the morphological resemblance to the noun *djeca*, where the collective numeral is used in accordance with the rule that feminine collective nouns take a collective numeral. Alternatively, with the noun *braća* one also finds a numerical noun (*dvojica braće*) in accordance with the rule that numerical nouns are combined with nouns that signify masculine persons (the so-called category of "virility").¹³

The existence of both combinations is confirmed by a number of examples taken from the Internet. However, the noun *braća* (when it refers to two brothers) appears five times more often with the numerical noun *dvojica* than with the collective numeral *dvoje*. When it refers to four brothers, the difference between the number of examples of collective numeral *četvero* and the numerical noun *četvorica* is much smaller. In cases of numerals higher than 'five' (with the exception of compound numerals higher than 'twenty' ending in 'two', 'three', or 'four'), hits with the collective numeral predominate, as can be seen in Table 2.¹⁴

¹³ Cf. Janda 2000 on Polish.

¹⁴ In this research, all case forms of the numerical noun were counted on webpages specified as Croatian in the Google advanced search. I tried to avoid hits that were evidently repeats (titles of films, biblical quotations, etc.), although this was not always possible. For example, in the case of the numeral 'five' there are a large number of

Amount	Cardinal numeral (<i>dva/dvije, tri, četiri</i> etc.) <i>brata/braće</i> ¹⁶	Collective numer- al (<i>dvoje, troje,</i> <i>četvero,</i> etc.) <i>braće</i>	Numerical noun (dvojica, trojica, četvorica, etc.) braće
2	19.3	13.2	67.5
3	22.1	16.3	61.6
4	32.5	26.9	40.6
5	14.0	39.5	46.5
6	12.3	45.0	42.7
7	27.1	59.9	13.0
8	20.9	66.3	12.8
9	36.3	51.0	12.7
10	12.1	62.4	25.5

Table 2. Percentage of Internet hits with the forms *brat/braća* in combination with a numeral

The morphological resemblance of the noun *braća* to the noun *djeca* clearly stimulates the use of collective numerals, even in the absence of the specific semantic features connected with this numeral.

¹⁵ All hits with singular as well as with the collective form are counted. It is interesting to note that cardinal numbers can be found accompanying the collective noun *braća*. Since the hits in the corpora show that these cases appear mostly in epic style, it is probably appropriate to speak of a marked usage:

- (i) Imam još pet braće, i neka ih opomene, da ne dođu i oni na ovo mjesto muke! 'I have five more brothers, but let them be warned not to come to this place of sorrow!'
- (ii) Najmlađi od sedam braće, koje Antioh pogubi radi vjere, ispovijeda.

'The youngest of seven brothers killed by Antioch because of their faith confesses.'

(iii) Devet braće Crnomira, Ponos sela Jadranskoga. Krvava je borba bila, Protiv brojčanog Latina.

'Nine brothers Crnomir are the pride of the Adriatic village. A bloody battle was waged against the numerous Latins.'

hits about the legendary five brothers who led the Croatian tribes from their original homeland, most of which could not be excluded from the search, which might be a possible reason for the slight peak in the pattern. Additional searches in the HNK and Webcorp did not show crucial differences.

Collective numerals can also be found determining syntagms such as *braća i sestre* 'brothers and sisters'.

(15) Imala je petero braće i sestara s kojima je odrasla.'She had five brothers and sisters with whom she grew up.'

For the syntagm *braća i sestre* no monolexical synonym comparable to English *siblings* exists in Croatian. Therefore *braća i sestre* is interpreted as a single lexical unit; the collective numeral simply agrees with the feature of mixed gender—or rather neutralized gender (Pranjkov-ić 1984). Other phrases referring to groups consisting of members of mixed gender rendered by corresponding masculine and feminine nouns are more often accompanied by a cardinal numeral¹⁶ (if not substituted by monolexical equivalents, which in turn can be accompanied by a cardinal—as long as this is not a collective noun—as well as by a collective numeral):

šest mladića i djevojaka	šestero/šest mladih
'six young men and young women'	'six young ones'
<i>pet muškaraca i žena</i>	petero/pet ljudi
'five men and women'	'five people'
osam dječaka i djevojčica	osmero djece
'eight boys and girls'	'eight children'
<i>sedam sinova i kćeri</i>	<i>sedmero djece</i>
'seven sons and daughters'	'seven children'
<i>dvadeset očeva i majki</i>	<i>dvadesetero/dvadeset roditelja</i>
'twenty fathers and mothers'	'twenty parents'

3.2. The Nouns gospoda and vlastela

Some grammars mention *gospoda* 'gentlemen' and *vlastela* 'landowners' as examples of feminine collective nouns denoting living beings that

¹⁶ Thomas (2011: 649) says that both the cardinal and the collective numeral are equally possible ("Si l'on a deux substantives spécifiant la difference de sexe, le cardinal et le collectif sont également possibles: *sedam mladića i d[j]evojaka = sedmoro mladića i d[j]evojaka* 'sept jeunes gens et jeunes filles'"). He adds that purists prefer the cardinal numeral since the collective one gives redundant information about mixed gender (information which is already given by separate substantive).

take collective numerals. However, these nouns differ from the other members of this group in the following respects.

First, *gospoda* is the collective corresponding to the masculine singular noun *gospodin*, and *vlastela* is the collective corresponding to the masculine singular noun *vlastelin* (which also has a regular plural *vlastelini*), while other feminine collective nouns denoting living beings which combine with collective numerals are correlated with neuter singular nouns (except the noun *braća*; see 3.1).

Second, the noun *vlastela* and, to a lesser degree, the noun *gospoda* (when it signifies 'ladies and gentlemen'), can have a singular predicate:

(16) Zla **vlastela je** s kmetovima često postupala vrlo okrutno.

'The evil landowners often treated their serfs very cruelly.'

- (17) [...] u koju je odlazila gospoda u šetnju.
 - '... where ladies and gentlemen went for a walk.'

The noun *vlastela* must be considered uncountable; members of the intended class are usually quantified by syntagms of a collective numeral with the preposition *od*, e.g., *dvoje od vlastele*, or by cardinal numerals plus a particularizing element, cf. *dva pripadnika vlastele* 'two **members** of the landed gentry'.

Finally, there is very little evidence of actual use: on the Internet there are only four hits for *gospoda* in combination with a collective numeral, and the HNK yields only a single hit. I did not find examples of *vlastela* with a collective numeral on the Internet nor in the HNK.

3.3. The Noun tata

Apparently, a case similar to the one mentioned in 3.1 (*djeca, braća*) can be seen with the masculine noun *tata* 'daddy'. It is not unlikely that the semantic feature "close relative," which these nouns have in common, plays a part. This noun is used in combinations with different types of numerals in colloquial language, particularly with the numeral 'two':

Form ¹⁷	Number of Hits
dva tate	203
(cardinal numeral, m; Gsg ¹⁸)	
dvojica tata	142
(numerical noun; Gpl)	
dvije tate	68
(cardinal numeral, f; Npl ¹⁹)	
dvoje tata	22
(collective numeral; Gpl)	
dvoje tate	20
(collective numeral; Gsg ²⁰)	

3.4. Masculine Nouns

Collective numerals are also used in combination with plural masculine nouns to highlight the semantic feature 'mixed/neutralized gender'. Compare:

¹⁷ The noun *tata* is inflected like nouns ending in *-a* (most of which are feminine), which normally take the feminine form of the cardinal numeral 'two' (this would produce the combination *dvije tate*). For this reason Tafra (2005: 37) does not approve of the combination *dva tate*. She claims that the form for male persons *dvojica* should be used instead (*dvojica tata*). However, the category of masculine persons ("virility") is already included in the lexical meaning of the noun, so it is unnecessary to use a numerical noun like *dvojica* to emphasize this category. Syntactically, the noun *tata* behaves like a masculine noun, i.e., it is determined by constituents in the masculine form (*ovaj/dobar tata*, and not **ova/dobra tata* 'this/good daddy'). Therefore, in my opinion the masculine/neuter form *dva* should not be considered inappropriate in this combination. The acceptability of both combinations (*dva tate*, *dvojica tata*) is clear from the number of hits on the Internet. In the case of the numeral 'three', a search on the Internet yielded 30 hits of *tata* with the cardinal numeral versus only three hits with the numerical noun.

¹⁸ This form is actualy a paucal form; cf. section 2. Hits with the name of the popular film *Imam dvije mame i dva tate* are not included here.

¹⁹ Leko (2009: 94) claims that "*dvije* also takes the genitive paucal complements which happen to be identical in form with the nominative/accusative forms." He further explains that: "In contrast to *dva*, however, *dvije* has feminine features, and therefore the agreement form of the predicate is feminine [...]"

²⁰ See note 18.

(19) Prilikom napuštanja vagona lakše je ozlijeđeno troje putnika. 'Three passengers were slightly wounded as they left the carriage.'

On the other hand, numerical nouns are used to emphasize that all members of a given group are male:

(20) Jednom prilikom **trojica putnika** svratiše u gostionicu na večeru.

'On one occasion three (male) passengers went to an inn to have dinner.'

Comparable expressions with cardinal numerals merely indicate quantity:

(21) Drugi red—demontažna klupa za tri putnika'Second row—folding chairs for three passengers'

These semantic distinctions do not apply to collective nouns ending in -a and -ad. As I mentioned above, with those nouns only collective numerals are used that semantically correspond well with the nouns, but in my opinion the numerals merely express quantity in these instances²¹ (and not semantic features of mixed/neutralized gender as when they are combined with plural masculine nouns).

3.5. Summary

Thus, the distribution of collective numerals can also be classified according to their ability to "compete" with other numerals occurring with the same noun. Accordingly, if no other (sub)class of numerals can be used and if the collective numeral precedes the noun for reasons of agreement only, the collective numeral is not there to emphasize any semantic characteristic of the referent and has a purely quantifying role.

However, if the noun in question can also be determined by a numeral from some other (sub)class, the collective numeral emphasizes the referent's specific semantic features as to mixed/neutralized gender of the individuals comprising the group. Depending on the extent of

²¹ Cf. Dalewska-Greń and Feleszko 1984: 38.

their co-occurrence with other numerical (sub)classes, I suggest dividing the semantic features that collective numerals emphasize (quantity, collectiveness, virility, mixed gender) into the following types:

Type 1: Quantity

Numerals higher than 'four'; in cases when there is no cooccurrence of a numeral accompanying the noun other than the collective (i.e., collective nouns referring to living beings regardless of gender).

e.g., petero djece/janjadi

Type 2: Collectiveness vs. Quantity²²

Numerals lower than 'five'; when next to a collective numeral + collective noun, a cardinal numeral combined with a paucal form of the corresponding nouns of Type 1, and of the noun *ljudi*, can be used.

e.g., troje djece : tri djeteta dvoje teladi : dva teleta četvero ljudi : četiri čovjeka

Type 2a: Quantity vs. Virility

The noun *braća* accompanied by a numeral higher than 'four'; where the collective numeral competes with a numerical noun. e.g., *petero braće : petorica braće*

Type 3: Mixed/Neutralized Gender vs. Virility vs. Quantity

Apart from the collective numeral, both a numerical noun and a cardinal numeral can be used (accompanying masculine nouns in the paucal or in the plural).

e.g., troje/šestero putnika : trojica/šestorica putnika : tri/šest putnika

Type 3a: Collectiveness vs. Virility vs. Quantity

The noun *braća* accompanied by numerals lower than 'five'; all three classes of numerals are possible, each with a different semantic value.

e.g., troje braće : trojica braće : tri brata

²² Thomas (2011: 649) distinguishes here between a "group as a unit" and the "individual components of a group."

4 Agreement

4.1. Agreement with Cardinal Numerals

In combination with the cardinal numerals 'two', 'three', or 'four', masculine nouns ending in a consonant (e.g., *prozor* 'window') and neuter nouns (e.g., *selo* 'village', *srce* 'heart') take a form which is identical to the genitive singular (*dva prozora, tri* sela, *četiri srca*), while feminine nouns (e.g., *kuća* 'house', *kost* 'bone') take a form which is identical to the nominative plural (*tri kuće, dvije kosti*).²³ The verbal predicate is in the third person plural (*tri kuće su velike* 'three houses are big'). The nominal part of the predicate takes a form which is identical to that of neuter N plural when it refers to neuter or masculine nouns ending in a consonant or in *-o* or *-e* (*dva prozora su otvorena* 'two windows are open') and to that of N plural feminine when it refers to nouns of the feminine gender (*tri kuće su nestale* 'three houses have disappeared').

With cardinal numerals higher than 'four', the noun (regardless of gender) is in the genitive plural, the verbal predicate is in the third person singular, and the nominal part of the predicate is in the N singular neuter (*pet spomenikā/selā/kućā je spaljeno* 'five monuments/villages/ houses are [lit. 'is'] burned').²⁴

4.2. Agreement with Numerical Nouns

Numerical nouns are followed by masculine nouns in the genitive plural, while the verbal predicate is in the third person plural. Croatian grammars describe the nominal part of the predicate as either feminine singular (Barić et al. 2005: 425) or neuter plural (Raguž 1997: 355; Silić and Pranjković 2005: 145), something which is not evident from the form (e.g., *trojica turistā su poginula* 'three male tourists were killed', where *poginula* can be Nsg feminine or Npl neuter).²⁵

²³ Cf. notes 18 and 19.

²⁴ For a more detailed description, see Stefanović 2013.

²⁵ A detailed discussion of similar cases can be found in Alsina and Arsenijević 2012. Alsina and Arsenijević argue for a mixed, or hybrid, agreement (plural finite form and feminine singular) against the proposal of Wechler and Zlatić (2003), who argue for number agreement between the finite form and the participle (plural finite form and neuter plural).

4.3. Agreement with Collective Numerals

Collective numerals in NAV can occur with pronouns in the nominative (mostly in neuter singular referring to the collective, e.g., *ono četvero* 'those four'), or genitive case (Gpl referring to the members as the parts of this collective, e.g., *njih četvero* 'the four of them') if the pronoun precedes the numeral. Pronouns that follow the numeral take only the genitive (*troje naših* 'three of our people').

The noun always follows the collective numeral. Collective numerals in NA are followed by a Gpl of the noun (*petero studenata* 'five students'), or Gsg in the case of a singulare tantum (*troje djece* 'three children'). When a collective numeral precedes a (pro)noun or an adjective in the subject of a sentence, the verbal predicate is usually in the third person singular and the nominal predicate in the neuter singular form (*dvoje staraca/njih je bolesno* 'two old people/of them are ill'). In other instances, the verb is mostly in the third person plural and the nominal predicate in the masculine plural (*njih dvoje su bolesni* 'the two of them are ill').

Most Croatian grammars pay very little attention to the agreement of collective numerals and mention only agreement in the genitive for the (pro)noun accompanying the numeral and the possibilities of agreement in the singular and the plural in the predicate. In general, the conditions for choice between the alternatives are not discussed.²⁶

I would like to point out that the choice between the singular or the plural form of the predicate depends on the noun or pronoun which is combined with the collective numeral, or possibly on a particular semantic feature of the verbal predicate that the speaker wishes to emphasize. Raguž (1997: 356–58) goes to some lengths to describe these relationships. He explains that the numerals agree with a predicate in the singular when used independently (*ovo dvoje je najgore* 'these two (things) are [lit. 'is'] the worst) or when accompanied by a collective noun or a noun in the genitive plural (*troje teladi pase* 'the three calves are [lit. 'is'] grazing'; *dolazi četvero gostiju* 'four guests are [lit. 'is'] coming'). He also mentions that the distance between the numeral construction and the predicate enhances the possibility for semantic agreement of the predicate with the noun, rather than with the numeral

²⁶ For more details, see Stefanović 2010.

al.²⁷ This tendency can also be observed in instances when the numeral and the predicate are not in the same clause, as Raguž illustrates with the following example: *Troje putnika je zakasnilo* [sg.] *na vlak i morali* [pl.] *su doći taksijem* 'Three passengers missed the train and they had to come by taxi'.

With some slight changes, Raguž's conditions could be made to accommodate examples drawn from the various corpora. These changes concern the different agreement of subject and predicate when the subject is a combination of (pro)noun with a numeral below 'five' on the one hand, and (pro)nouns in the plural form with a numeral above 'four' on the other hand. This may be summed up in the following points:²⁸

A predicate in the **singular** is used:

- when the subject is a collective numeral used independently, or when it is accompanied by an enclitic personal pronoun, e.g., *Troje ostaje tu* 'Three [people] stay here'; *Četvero nas je išlo* 'Four of us went [there]';
- when the subject is formed by a collective noun, e.g., *Dvoje djece je ostalo u školi* 'Two children have remained at school';
- when the subject is a collective numeral accompanied by a noun in the genitive plural, e.g., *Devetero studenata odlazi u Grčku*. 'Nine students are going to Greece'.

A predicate in the **plural** is mostly used:

• when a stressed personal pronoun is accompanied by collective numerals lower than 'five' (preceding the predicate), e.g., *Njih dvoje* su *stajali ukamenjeni* 'Those two stood petrified'; *Kao da je glazba stala kad smo nas troje ušli unutra* 'As if the music had stopped when the three of us came in'.

A predicate in the **singular or plural** can be used:

²⁷ "Kad su riječi koje se odnose na te brojeve dalje u tekstu, ili izdvojene, onda je obično oblik usklađen s imenicama koje se broje, a ne s brojem" (Raguž 1997: 358).

²⁸ However, the choice between singular or plural can also depend on purely semantic grounds, e.g., information in the sentence which should be emphasized or the need for unambiguous understanding in structures consisting of several clauses (cf. Stefanović 2013: 243).

- when a stressed personal pronoun in the genitive plural is followed by collective numerals higher than 'four', e.g., *Njih petero nema/nemaju što jesti* 'The five of them have nothing to eat'.
- when a combination of stressed personal pronoun and collective numeral in the genitive plural follows the predicate.²⁹

4.4. Pronouns and the Pronominal Adjective sav, sva, sve

I now turn to the demonstrative and possessive pronouns, and the pronominal adjective *sav, sva, sve* 'all' when used in combination with a collective numeral. Corpora searches indicate that there are certain regularities regarding their taking either the N singular or G plural, depending on which grammatical person they signify (for possessive pronouns) and whether or not they occur in conjunction with a collective numeral in the paucal or the plural.

Demonstrative pronouns mostly take the N neuter singular when accompanied by numerals lower than 'five', while the genitive plural mostly occurs with numerals higher than 'four':

- (23) Pogledaj ovo dvoje što su upravo ušli.'Look at these two who just came in.'
- (24) **Ovih petero** izabranih ljudi zajedno s gradonačelnikom...

'These five elected people together with the mayor...'

Possessive pronouns are mostly in the N neuter singular (*njihovo troje služinčadi* 'their three servants'), but they also occur in the genitive plural, particularly the first person with numerals higher than 'four':

(25) Moja dva bivša muža ne mogu uzdržavati mojih petero djece...'My two ex-husbands cannot take care of my five children...'

²⁹ Note that combinations with first and second plural personal pronouns occur with a predicate in the plural, e.g., *Zgodni ste vas troje* 'The three of you are charming', whereas combinations with a third person plural pronoun are frequently accompanied by a predicate in the singular, e.g., *Zgodno je njih troje* 'The three of them are [lit: is] charming'.

Table 3 shows the statistics for an Internet search of the pronominal adjective *sav, sva, sve/svo*³⁰ accompanying the collective numeral *troje*³¹ in subject position. As can be seen, it mostly takes the N singular neuter: *sve troje smo zaljubljeni* 'all three of us are in love', and less frequently the nominative plural masculine: *svi troje su ostali mirni* 'all three remained quiet'. However, with numerals higher than 'four', it mostly takes the genitive plural (which is the same for all the three genders): *svih petero je neozlijeđeno* 'all five are uninjured'.

Numeral	svih (Gpl)	sve/svo (Nsg.n)	svi (Npl.m)
	%	%	%
3	1.6	73.1	25.2
4	26.2	34.9	38.7
5	75.0	12.0	13.0
6	78.8	5.5	15.6
7	95.8	3.7	0.5
8	88.9	8.9	2.2
9	92.9	4.2	2.8
10	98.3	1.4	0.3

Table 3. Percentage of Internet hits with the pronominaladjective *sav, sva, sve* in conjunction with acollective numeral in subject position.

As to agreement of the predicate, the matter is less clear. On the whole, in cases where collective numerals are accompanied by demonstrative and possessive pronouns or by the pronominal adjective *sav*, *sva*, *sve*, there do not appear to be general rules for determining whether the predicate should be in the plural or singular form. However, the Npl masculine form *svi* of the adjective *sav*, *sva*, *sve* is always combined with a plural predicate (*Svi četvero dolazimo iz Splita* 'All four of us are coming from Split').

 $^{^{30}\,}$ The form svo is not in accordance with the grammatical norm. However, in every-day speech it coexists with the prescriptive form sve.

³¹ The pronominal adjective *sav* 'all' is not accompanied by the numeral *dvoje*, since the collective numeral *oboje* 'both' is used instead to signify all members of a pair.

One explanation for the combination of demonstrative pronouns with a singular predicate could be that it signals collectiveness whereas a predicate in the plural points to particular members of a group. However, there is no support for this hypothesis in the corpus. For example, the following quote from the Bible using both possibilities can be found on the Internet in equal frequency:

- (26) Otac, Riječ, i Sveti Duh, i ovo troje je jedno.'The Father, the Word, and the Holy Spirit, and these three are [lit. 'is'] one.'
- (27) Otac, Riječ, i Sveti Duh, i ovo troje su jedno.'The Father, the Word, and the Holy Spirit, and these three are one.'

From the results of my corpus research, it appears that the rules for agreement suggested above are often less valid for numerals higher than 'four'.

5. Conclusion

Based on corpus research, a coexistence of various systems for numerals can be detected in common usage. It appears that for the numeral 'two', more reliable rules can be postulated then for other collective numerals, since this numeral yields by far the most hits.³² The numerals 'three' and 'four', although mostly used in a similar way to the numeral 'two', behave more like numerals higher than 'four' in a considerable number of examples.

However, the class of nouns that can be accompanied by collective numerals can be reduced to nouns referring to living beings, and includes only the collective feminine singularia tantum ending in *-ad*, masculine nouns in the plural, and the nouns *djeca* 'children' and *braća* 'brothers'.

In spite of morphological, syntactic, and semantic complexities there are, with a number of exceptions in corpora, observable general tendencies:

³² These include the frequent syntagms *dvoje djece* 'two children' and *dvoje ljudi* 'two people', which constitute one-fifth of the total number of examples for this numeral from the HNK and the Internet.

- The collective numerals 'two' and 'three' are inflected only in independent use; for numbers higher than 'five', numerical adjectives are used in oblique cases, not collective numerals.
- Singularia tantum accompanied by a collective numeral are in the genitive singular, and masculine nouns are in the genitive plural.
- Personal pronouns accompanying collective numerals are usually in the genitive case,³³ while demonstrative pronouns mostly take the form of the NAsg case for neuter when these accompany numerals lower than 'five', and of the genitive plural case when accompanying numerals higher than 'four'. Possessive pronouns act in a similar way to demonstrative pronouns and to the pronominal adjective *sav*, *sva*, *sve* 'all', although examples of these occur in different proportions.
- Collective numerals agree with the verbal predicate in the third person singular and with the predicate adjective in the nominative neuter singular when they occur in independent use. The same holds for numerals that are accompanied by a collective noun or a masculine noun in the genitive plural. Collective numerals lower than 'five' that are accompanied by a stressed personal pronoun agree with the verbal predicate in the plural and with the predicate adjective for the masculine gender.

The confusing and often contradictory rules in the grammars of standard Croatian insufficiently reflect factual usage and the needs of native speakers regarding semantic distinctions. Despite attempts at systematic categorization (Tafra 2005, Raguž 1997), there is, unfortunately, still no clear overview of the rules for using collective numerals in the grammars.

³³ Marković (2012: 490), who does not distinguish collective nummerals from numerical nouns, claims that "in Štokavian dialects, hence also in the standard language, nominative constructions with pronouns are problematic since in such cases it is not possible to use an appositional construction (nominative + nominative *mi dvojica*), only attributive constructions are possible (with the partitive genitive *nas dvojica*). In Kajkavian dialects the former constructions are completely acceptable—*mi dva, vi dve.*" However, he does not explain why this holds for personal pronouns, but not for demonstrative and possessive pronouns. Leko (2009: 91) remarks in this regard: "At this point, I don't have a proposal for this mystery—why the genitive/accusative form *vas*, and not the nominative *vi*, with quantified expressions."

It is my sincere hope that the observations and comments presented in this article will contribute to the establishment of a norm that is closer to the Croatian language as it is actually spoken and written today.

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