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The accusative/genitive alternation in Bosnian/Croatian/Serbian

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There is an ongoing discussion in the literature on how the meaning conveyed by (in)definite determiners is expressed in languages which lack an (in)definite article system (see e.g., Chierchia 1998; Dayal 2004; Deal 2017). One proposal is that in Slavic languages the meaning conveyed by (in)definite determiners is expressed by case markers (e.g., Kagan 2007; Khrizman 2014; Borschev et al. 2008). In particular, the observation was that in the case of the accusative/genitive alternation, the accusative is associated with the meaning conveyed by definites, while the genitive case is associated with the meaning conveyed by indefinites. We tested this observation in Bosnian/Croatian/Serbian (BCS) focusing on the alternation of the accusative with the partitive genitive in the direct object position of transitive verbs. The results of our research show that whereas the accusative conveys the inferences of maximality and weak familiarity of the discourse referent, the genitive case does not. We propose that the partitive genitive in BCS presupposes proper partitivity. The inferences of the accusative, on the other hand, arise as implicated anti-presuppositions yielded by the competition with the partitive genitive.

1 Introduction

In languages with the definite/indefinite article system, the definite article was argued to convey familiarity, uniqueness, maximality, salience or subsets thereof (Heim 1982; Heim & Kratzer 1998; Roberts 2003; Szabó 2003; Schwarz 2009; Elbourne 2013; Barlew 2014; Coppock & Beaver 2015, among many others). For example, in English one cannot use a definite article at the beginning of the conversation, as in (1), but it must be used in the situation in which there is a unique discourse referent, as in (2), suggesting that the definite determiner *the* encodes familiarity and/or uniqueness:

(1)   CONTEXT: Beginning of a conversation
       I bought a/#the book. #A/The book was interesting.

(2)   The/#A sun is shining.

The immediate question is how the meaning conveyed by the (in)definite determiners in article languages is encoded in languages without an overt article system (see e.g., Chierchia 1998; Dayal 2004; Deal 2017). In the previous literature, it has been argued that the meaning conveyed by definite determiners in articleless languages might be correlated with the information structure (Brun 2001; Geist 2010), the word order (Borik 2016), the singularity of bare nouns (Dayal 2004), and certain cases (e.g., Kagan 2010; Khrizman 2014; Borschev et al. 2008).[1] Specifically, under the last proposal, the observation was that in the case of the accusative/genitive alternation, while the accusative is associated with the meaning conveyed by the definite article, the genitive case is not, as exemplified in (3) with data from Russian:

(3)   RUSSIAN:
       a. Petja ždal   avtobus-a.
           Petja wait.IPFV.PAST bus.GEN
           'Petja was waiting for a bus.'

       b. Petja ždal   (svoj) avtobus.
           Petja wait.IPFV.PAST (his)   bus.ACC
           'Petja was waiting for the (his) bus.'   (Khrizman 2014: 420)

We tested empirically the last hypothesis by examining whether bare plural and mass nouns in direct object position of transitive verbs in Bosnian/Croatian/Serbian (BCS) are associated with some kind of meaning conveyed by (in)definite determiners when they can alternate between the accusative and the partitive genitive, as in (4):

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[1] See also Arsenijević (2006) for the interaction between specificity, partitive genitive, accusative, and telicity.

(4) BOSNIAN/CROATIAN/SERBIAN:
Kupila sam haljine/haljina.
bought.1SG.F.PFV AUX dresses.PL.ACC/dresses.PL.GEN
'I bought dresses.'

The results of our study show that while the accusative conveys maximality and weak familiarity of the discourse referent, the genitive does not. We propose that the partitive genitive in BCS presupposes proper partitivity and hence it does not convey maximality. The maximality inference of the accusative, on the other hand, arises as an implicated anti-presupposition resulting from the competition with the partitive genitive. Thus our studies directly contribute to the ongoing discussion of how the meaning of (in)definite determiners is expressed in articleless languages.

The paper is structured as follows: Section 2 discusses the phenomenon of the accusative/genitive alternation in Slavic languages. Sections 3 and 4 present the results of the field research study on inferences of the accusative and the genitive in the case of the accusative/genitive alternation in direct object position in BCS. In particular, Section 3 discusses the meaning contribution of cases in the accusative/genitive alternation in BCS and Section 4 examines their semantic status. An analysis of the data is presented in Section 5 and Section 6 concludes.

2 The accusative/genitive alternation

In Slavic languages, the genitive case can function as an alternate to other cases as for instance the accusative or the nominative (Franks 1995; Bersehev et al. 2010, among others), constituting the so-called non-canonical uses of the genitive (Kagan 2007), also known as *Slavic Genitive* (e.g., Menac 1978; Stolac & Horvat Vlastelić 2004; Karavdić 2019). Among the uses of the genitive as an alternate to the accusative, one can distinguish the genitive of negation, the intensional genitive, and the partitive genitive, as illustrated in (5)–(7) for Russian.[2]

(5) Oni ne postroili gostinic-u/gostinic-y
They not built.PFV hotel.ACC/hotel.GEN   GENITIVE OF NEGATION
'They didn't build a hotel.'

(6) Petja ždal avtobus/avtobus-a
Petja waited.IPFV bus.ACC/bus.GEN   INTENSIONAL GENITIVE
'Petja was waiting for bus.'

(7) On kupil molok-a.
he bought.PFV milk.GEN   PARTITIVE GENITIVE
'He bought some milk.'

(from Khrizman 2014: 420–421)

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[2] The sketch of the accusative/genitive alternation in Russian presented in this paper does not exhaust its semantic and pragmatic properties, for details see e.g., Kagan (2010).

These different uses of the genitive are also attested in BCS, as illustrated below in (8)–(10). In BCS, the accusative/genitive alternation is restricted to plural count and mass nouns across all non-canonical uses of the genitive (Jahić et al. 2004; Brown & Alt 2004; Alexander & Elias-Bursac 2010; Klimentić 2016), unlike in Russian, where only the partitive genitive exhibits this restriction.

(8) GENITIVE OF NEGATION:
Nisam   dobila   vodu/vode   haljine/haljina
NEG.1SG got.1SG.F.PFV water.SG.ACC/water.SG.GEN dresses.PL.ACC/dresses.PL.GEN
odgovor/*odgovora.
answer.SG.ACC/answer.SG.GEN
'I did not get water/ dresses/an answer.'

(9) INTENSIONAL GENITIVE:
Poželjela   sam vodu/vode   haljine/haljina
miss.1SG.F.PFV AUX water.SG.ACC/water.SG.GEN dresses.PL.ACC/dresses.PL.GEN
odgovor/*odgovora.
answer.SG.ACC/answer.SG.GEN
'I missed water/ dresses/an answer.'

(10) PARTITIVE GENITIVE:
Imam   vodu/vode   haljine/haljina
have.1SG.PRES water.SG.ACC/water.SG.GEN dresses.PL.ACC/dresses.PL.GEN
odgovor/*odgovora.
answer.SG.ACC/answer.SG.GEN
'I have water/ dresses/an answer.'

Another difference between BCS and Russian is that while the partitive genitive is infelicitous with imperfective aspect in Russian, i.e., the genitive object of verbs with imperfective aspect cannot have a partitive interpretation in Russian, as shown in (11), it is not the case in BCS. That is, the partitive genitive in BCS can occur both with imperfective and perfective aspect, as illustrated in (12):[3]

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[3] An anonymous reviewer pointed out to us that in the case of the accusative/genitive alternation, the use of the genitive with imperfective aspect is rare and mostly used with the verb *imati* 'have'. All our language consultants accepted, however, the sentences with verbs in imperfective aspect and direct objects in the genitive suggesting that they are felicitous. It is important for us, as it motivates our analysis as not deriving the semantic and pragmatic properties of the accusative and the genitive from the interaction with perfective aspect. At the same time we admit that more research should be done on the interaction between the aspectual interpretation of the sentence and the meaning of the accusative and the genitive, which we, however, leave for future research.

(11) RUSSIAN:
      on   pil   čaj/*čaj-a.
      3SG drank.IPFV tee.ACC/tee-GEN
      'He was drinking (the) tea/some (of the) tea.'

(adapted from Khrizman 2014: 418)

(12) BOSNIAN/CROATIAN/SERBIAN:
      Kupovala   sam vodu/vode.
      bought.1SG.F.IPFV AUX water.SG.ACC/water.SG.GEN
      'I was buying water.'

It has been claimed in the previous literature that while the use of the genitive in the case of the accusative/genitive alternation is associated with the meaning conveyed by indefinites and hence it is an indefinite-correlate, the use of the accusative is associated with the meaning conveyed by definites and hence it is a definite-correlate (Šimík & Demian 2020), as already shown in (3), repeated below for the ease of reference (see e.g., Jakobson 1971; Timberlake 1975; Franks 1995; Bailyn 2004; Kagan 2005; Borschev et al. 2008; Kagan 2010; Khrizman 2014):[4]

(13) RUSSIAN:
      a. Petja ždal   avtobus-a
          Petja wait.IPFV.PAST bus.GEN
          'Petja was waiting for a bus.'

      b. Petja ždal   (svoj) avtobus
          Petja wait.IPFV.PAST (his)   bus.ACC
          'Petja was waiting for the (his) bus.'   (Khrizman 2014: 420)

We examined this hypothesis empirically in BCS. In particular, we aimed at finding out what kind of information is conveyed by the accusative and the partitive genitive in the case of the accusative/genitive alternation and whether the accusative and the partitive genitive can be analyzed as a definite and indefinite correlate in BCS.

3 The meaning contribution of cases in the accusative/genitive alternation

Unless marked otherwise, all the data in the paper come from our original field research with up to eighteen native speakers of Bosnian (11 women and 7 men) conducted in 2018–2019 in Nordrhein-Westfalen (Germany) and in Sarajevo (Bosnia) mostly in form of pen-and-paper

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[4] The observation that the accusative is associated with a definite interpretation has also been reported for non-Slavic languages such as Finish and Turkish, see e.g., von Heusinger & Kornflit (2017); Chesterman (1991).

questionnaires. This research consisted of several questionnaires which were run as exploratory studies and targeted different aspects related to case alternation in BCS and definiteness. The methodology was based on Matthewson (2004) and the employed tasks included acceptability judgement tasks, inference tasks, and forced choice tasks. The number of consultants varied from task to task.

The empirical generalizations drawn from these questionnaires were re-tested systematically in summer 2020 with four native speakers of BCS (all women) in form of direct elicitation. The elicitations were run orally in four sessions of 45 minutes via video call and included 174 test items regarding the familiarity inferences described in section 3.1, inferences regarding maximality reported in section 3.2 and possible inference with respect to the amount of the discourse referent described in section 3.3. Where needed, the results were double-checked in form of acceptability judgement tasks with six further native speakers (two male, four female).[5]

As already mentioned in Section 1, across languages, definiteness is associated with familiarity, uniqueness/maximality, or subsets thereof (Heim 1982; Heim & Kratzer 1998; Roberts 2003; Szabó 2003; Schwarz 2009; Elbourne 2013; Coppock & Beaver 2015, among many others).[6] We examined whether the use of the accusative and the partitive genitive in the case of the accusative/genitive alternation in BCS is regulated by any of these notions.

3.1 Familiarity

In her taxonomy of familiarity in (14), Roberts (2003) distinguishes between strong familiarity, defined in terms of anaphoric relations, and weak familiarity, captured by other means by which a discourse referent can be familiar.

(14)   Taxonomy of familiarity:
   a.   **strong familiarity**: the NP has as antecedent a discourse referent introduced via the utterance of a (usually) preceding NP
   b.   **weak familiarity:**
      (i)   the entity referred to is perceptually accessible to the interlocutors
      (ii)   the entity referred to is globally familiar in the general culture or at least among the participants in the discourse, although not mentioned in the immediate discourse

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[5] All test materials are stored at the open repository osf.io under the project "Accusative/Genitive alternation in Bosnian/Croatian/Serbian" (DOI 10.17605/OSF.IO/A3SPT).

[6] Another dimension reported in the literature to be encoded by definite determiners across languages is salience defined in terms of attention capture (e.g., Barlew 2014, see also von Heusinger 2011 for an extensive discussion on specificity). However, as we did not find any suggestions that the use of the accusative and/or the genitive in the accusative/genitive alternation in BCS might be regulated by this kind of salience, we do not discuss it further in the paper.

(iii) introduction of the NP's discourse referent is licensed solely by contextual existence entailments

(iv) weak familiarity is guaranteed by giving a functional interpretation to the definite description (which function may have to be accommodated) with the intended argument(s) both familiar and highly salient (Bridging)

(from Roberts 2003: 304)

In order to determine whether the alternation of the accusative and the genitive in the direct object position of transitive verbs is regulated by familiarity, we ran an acceptability judgement task with four native speakers in form of a pen-and-paper questionnaire. The language consultants were presented with a context[7] and a target sentence with either the accusative or the genitive case and were asked to judge on a scale from 1 to 7 how acceptable the target sentence is in the given context. '1' means that the target is not acceptable at all and '7' means that the target is completely acceptable.[8] Example (15) tests for strong familiarity. The result of this test suggests that neither the accusative nor the genitive conveys strong familiarity as both of them are equally acceptable at the beginning of the conversation (the accusative variant was judged with 5.8 on average and and the genitive with 5.8).

(15) CONTEXT: Beginning of a conversation:
Kupila   sam **vodu** /**vode**.
bought.1SG.F.PFV AUX water.SG.ACC/water.SG.GEN
'I bought water.'

The use of the accusative vs. genitive in anaphoric contexts was also tested in sentences like (16):[9]

(16) Kupila   sam **haljine**/**haljina**   jučer   i   pokazala
bought.1SG.F.PFV AUX dresses.PL.ACC/dresses.PL.GEN yesterday and showed.1SG.F.PFV
ih   sestri.   Moja sestra voli   **haljine**/**haljina**.
them.ACC sister.DAT my   sister likes.3SG.F.PFV dresses.PL.ACC/dresses.PL.GEN
'I bought dresses yesterday and showed them to my sister. My sister likes (the) dresses.'[10]

Four case combinations were tested: accusative-accusative, genitive-accusative, accusative-genitive, and genitive-genitive. The best ranked option was accusative-accusative, judged by

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[7] The contexts were always presented in English language in order to avoid possible priming effects due to the before-mentioned target nouns realized in either the accusative or the genitive case.

[8] In case a consultant could not decide between two points on a scale, this was marked as halves, e.g., 6.5 for something between 6 and 7.

[9] To test it, we could not just use the translation of English examples such as (1), as we needed to include the target noun in the accusative or in the genitive case in direct object position in the second sentence.

[10] Example (16) was intended to test for the anaphoric interpretation, however the generic interpretation of *dresses* in the second sentence in (16) cannot be excluded.

all language consultants with 7.0. The second best option was genitive-accusative, which was judged on average with 4.8. The options accusative-genitive and genitive-genitive were equally bad with the average score of 1.3. Thus the results of this test point to the direction that while the accusative might encode familiarity, the genitive might not.[11]

As for weak familiarity, the accusative case is a strongly preferred option over the genitive, as illustrated for a perceptual access scenario in (17), global familiarity in (18), and bridging in (19).[12] In the perceptual access scenario, the sentences with the accusative were judged on average with 6.5 and with the genitive with 4.3, in global familiarity scenario with 5.5 and 2.2, respectively, and in the bridging scenario, the accusative was judged with 6.8 and the genitive with 4.8.

(17)   PERCEPTUAL ACCESS:
CONTEXT: Amra and Edin witnessed a horrific car accident in which a car with two adults and a child crashed into a tree. The driver was bleeding out while the child managed to step out of the car. Amra and Edin stood across the street and were watching how the driver was bleeding out while the child looked at him scared to death. Amra tells Edin:

Dijete je   vidjelo   ✓krv/krvi.
Kid   AUX saw.3SG.N.PFV blood.SG.ACC/blood.SG.GEN
'The kid saw the blood.'

(18)   GLOBAL FAMILIARITY:

Edin kaže   da je   u snu   video
Edin says.3SG.PRES that AUX in dream.LOC saw.3SG.M.PFV
✓apostole/apostola   kako sjede   u ćošku.
apostles.PL.ACC/apostles.PL.GEN how sit.3PL.PRES in corner.LOC
'Edin said he saw the Apostels in his dream sitting in a corner.'

(19)   BRIDGING:

Danas pravimo   limunadu.   Edin će   donijeti
today make.1PL.PRES lemonade.ACC Edin will.3SG bring.INF
✓vodu/vode.
water.SG.ACC/water.SG.GEN
'Today, we are going to make lemonade. Edin will bring the water.'

We also tested for the weak familiarity in the contexts in which the existence of the familiar discourse referent, i.e., *water* in (20), is contextually entailed. Also in this scenario, the accusative

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[11]   One concern with this data is that the choice of the case in the first sentence might influence the choice of the case in the following sentence. Note, however, that the genitive-genitive combination was still a dispreferred option, suggesting that the genitive does not convey familiarity.

[12]   '✓' indicates that the given option was preferred/better judged over the other.

case is a preferred option, i.e., while the accusative variant was judged on average with 5.8, the genitive alternate was judged with 3.1. **Table 1** summarizes the results of these acceptability tasks.

(20)   Contextual existence entailment:

U svakoj sobi   voda   se   nalazi   u frižideru. Već   sam
in every room.LOC water.NOM REFL resides.3SG.PRES in fridge.LOC already AUX

vidjela   ✓**vodu**/**vode**.
saw.1SG.F.PFV water.SG.ACC/water.SG.GEN

'In every room water is stored in the fridge. I saw the water already.'

	accusative			genitive			ex.
	mean	median	items	mean	median	items	
anaphoric reference	5.8	7.0	6	5.8	6.5	6	(15)
perceptual access	6.5	7.0	6	4.3	5.0	6	(17)
global familiarity	5.5	7.0	5	2.2	1.0	5	(18)
bridging	6.8	7.0	6	4.8	5.25	6	(19)
existence entailments	5.8	7.0	6	3.1	3.5	6	(20)

Table 1: Mean and median acceptability ratings of sentences with the accusative and the genitive across different familiarity-contexts.

In addition to the acceptability judgement task discussed above, we also ran an inference task with six native speakers of BCS in form of a pen-and-paper questionnaire. In this test, the language consultants were presented with a sentence containing the noun either in the accusative, as in (21a), or in the genitive, as in (21b). The consultants' task was to judge on a scale from 1–7 whether the sentence suggests that the speaker and the hearer were familiar with the discourse referent , i.e., the language consultants were asked how strong the following utterance suggests that both Amra and Edin know the dresses Edin is talking about. '1' means that the utterance does not suggest at all that the speaker and hearer were familiar with the discourse referent and '7' means that the sentence strongly suggests that the hearer and speaker were familiar with the discourse referent.

(21)   a.   Edin kaže: Kupio   sam haljine.
              Edin says.3SG.PRES bought.1SG.M.PFV AUX dresses.PL.ACC
              'Edin says: I bought the dresses.'

       b.   Edin kaže: Kupio   sam haljina.
              Edin says.3SG.PRES bought.1SG.M.PFV AUX dresses.PL.GEN
              'Edin says: I bought (some) dresses.'

The results of the inference task show that the endorsement of the familiarity inference is much stronger in the case of the accusative than the genitive (the average score for sentences with the accusative is 6.8 and for sentence with the genitive 2.8), suggesting that the use of the accusative (but not the genitive) is associated with familiarity.

To summarize the whole section, the results of the discussed diagnostics suggest that in the case of the accusative/genitive alternation, the accusative can convey familiarity, while the genitive cannot.

3.2 Maximality

Another notion that has been argued to be conveyed by definite determiners is uniqueness/maximality. Since uniqueness refers to singular count nouns only, we examined whether, together with weak familiarity, also maximality plays a role in regulating the choice of the accusative vs. the genitive in the case of the accusative/genitive alternation in BCS. To test it, four language consultants were presented with two types of contexts: context with a maximal discourse referent, as in (22), and a context with a non-maximal discourse referent, as in (23), along with two versions of the target sentences, i.e., containing the direct object either in the accusative or in the genitive case.[13] The language consultants' task was to judge the acceptability of the target sentence in the provided contexts on a scale of 1–7 ('1' means that a sentence is not acceptable at all and '7' means that the sentence is completely acceptable).

(22)   MAXIMALITY CONTEXT

    a.   Amra and Edin are renovating their apartment. They need to renew 10 windows. They went to a building supplies store. Only ten windows were left. They bought all of them. Edin told Amra:

        Nakon što   smo   kupili   ✓**prozore**/**prozora**,   mogli
        after   that AUX bought.1PL.PFV   windows.PL.ACC/windows.PL.GEN   could.1PL
        bi   otići   na kahvu.
        AUX   go.INF   at   coffee.ACC
        'After we bought the windows, we could have a coffee.'

    b.   Amra and Edin are preparing a new episode of their baking-YouTube show. For that they need 10 kg of flour. They went to a store nearby where exactly 10kg of flour were left and bought all of it. Edin told Amra:

        Kupili   smo   ✓**brašno**/**brašna**.   Hajmo   sad   na ručak.
        bought.1PL.PFV AUX   flour.SG.ACC/flour.SG.GEN   let.go.1PL   now at   lunch.ACC
        'We bought the flour. Let us now have lunch.'

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[13] Note that both the speaker and the hearer are weakly familiar with *windows* and *flour* in (22) and (23).

(23)   NON-MAXIMALITY CONTEXT

    a.   the same as in (22) but this time they bought six out of ten windows. Edin told Amra:

Nakon	što	smo	kupili	✓**prozore**/**prozora**,		mogli
after	that	AUX	bought.1PL.PFV	windows.PL.ACC/windows.PL.GEN		could.1PL

bi	otići	na	kahvu.
AUX	go.INF	at	coffee.ACC

'After we bought the windows, we could have a coffee.'

    b.   the same as in (22) but this time they bought three out of ten kilo flour.

Kupili		smo	✓**brašno**/**brašna**.		Hajmo	sad	na	ručak.
bought.1PL.PFV		AUX	flour.SG.ACC/flour.SG.GEN		let.go.1PL	now	at	lunch.ACC

'We bought the flour. Let us now have lunch.'

The results of this study show that across different scenarios and nouns the acceptability of the accusative was judged higher than the genitive both in the maximal and non-maximal contexts: the average judgements in the maximal contexts were 6.9 for the accusative case and 3.9 for the genitive case, and 6.6 for the accusative case and 4.3 for the genitive case in the non-maximal contexts. The consultants explained their preference for the accusative in both contexts by saying that for them it did not matter how many windows Amra and Edin bought, i.e., the maximal amount of the windows available in the shop or not, as long as they bought all the windows they needed to buy (and this is what the language consultants assumed Amra and Edin did). Hence, it seems that what counts as maximal here is a maximal discourse referent we talked about/need, not the maximal amount of the stuff in the actual world. This could explain the results in (23) which leaves open e.g., the possibility that the interlocutors changed their mind and they needed six, not ten windows.[14]

We checked these predictions in a follow-up study with three consultants and it turned out that indeed when the whole, intended amount of flour or windows was bought, as in (24), the accusative variant obtained higher acceptability judgments than the genitive, i.e., while the accusative variant was judged with 7 by all language consultants, the genitive alternate was judged with 4.0. By contrast, when the whole, intended amount of flour or windows was not bought, as illustrated in (25), then the genitive case was judged better than the accusative alternate, i.e., while the genitive variant was judged on average with 6.5, the accusative variant was judged with 4.2.

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[14] Thanks to the editors for a discussion on this example.

(24)   MAXIMALITY CONTEXT

 a. Amra and Edin are preparing a new episode of their baking-YouTube show. For that they need 10kg of flour. They went to a store nearby and bought exactly as much flour as they needed. Edin told Amra:

  Kupili   smo ✓**brašno**/**brašna**.   Idemo sad na ručak.

  bought.1PL.PFV AUX flour.SG.ACC/flour.SG.GEN go.1PL.PRES now at lunch.ACC

  'We bought the flour. Let's now have lunch.'

 b. Amra and Edin are renovating their apartment. For that they need 10 new windows. They went to a store nearby and bought exactly as many windows as they needed. Edin told her:

  Kupili   smo ✓**prozore**/**prozora**.   Hajmo sad na

  bought.1PL.PFV AUX windows.PL.ACC/windows.PL.GEN let.go.1PL now at

  ručak.

  lunch.ACC

  'We bought the windows. Let us now have lunch.'

(25)   NON-MAXIMALITY CONTEXT

 a. same as in (24) but this time only five kilos of flour were left in the store, so they bought these five kilos. Edin told Amra:

  Kupili   smo **brašno**/✓**brašna**.   Idemo sad na ručak.

  bought.1PL.PFV AUX flour.SG.ACC/flour.SG.GEN go.1PL.PRES now at lunch.ACC

  'We bought the flour. Let's now have lunch.'

 b. same as in (25) but this time only five windows were left in the store, so they bought these five windows. Edin told her:

  Kupili   smo **prozore**/✓**prozora**.   Hajmo sad na

  bought.1PL.PFV AUX windows.PL.ACC/windows.PL.GEN let.go.1PL now at

  ručak.

  lunch.ACC

  'We bought the windows. Let us now have lunch.'

	accusative			genitive			ex.
	mean	**median**	**items**	**mean**	**median**	**items**	
maximal DR	6.9	7.0	6	3.9	4.0	6	(22)
non-maximal DR	6.6	6.75	6	4.3	5.0	6	(23)
maximal DR	7.0	7.0	2	3.0	4.0	2	(24)
non-maximal DR	4.0	4.0	2	6.6	6.5	2	(25)

Table 2: Mean and median acceptability ratings of sentences with the accusative and the genitive in contexts targeting maximal and non-maximal discourse referents (DR) across Study 1 (in the first two rows of the table) and in follow up Study 2 (in the second two rows of the table).

The results of the above tests suggest that while the accusative conveys maximality, the genitive does not, as illustrated with the mean and median acceptability ratings in **Table 2**. This claim is supported by the higher ratings in the acceptability judgement of the accusative in cases where maximality is satisfied, as in (24), on the one hand, and higher ratings of the genitive in non-maximal contexts, as in (25), on the other.

3.3 (Un)familiar quantity of stuff denoted by NP

In the previous literature on the partitive genitive and its alternation with the accusative, it was observed that the insertion of the accusative/genitive not only is associated with some kind of familiarity/specificity of the discourse referent but also with the (in)definiteness of the quantity of stuff denoted by the NP. For example, Khrizman (2014: 423) observes that the partitive genitive in Russian can have three possible interpretations: indefinite amount,[15] a small amount, and a large amount of the stuff denoted by the NP. We tested whether the partitive genitive in BCS also can get these readings through a series of forced choice and acceptability judgement tasks.

In the forced choice task in form of a pen-and-paper questionnaire, ten language consultants were presented with a context targeting small, large, or an unfamiliar amount reading together with the two target sentences containing the direct object (mass nouns or plural) in the accusative or in the genitive case, as presented in (26)–(28). The language consultants' task was to choose which of the two target sentences they would prefer in the given context.

(26) SMALL AMOUNT:
　　a.　MASS NOUN: Amra and Edin are preparing a new episode of their baking-YouTube show. For that Edin prepared beforehand all the ingredients they would need, he measured them carefully and put in one small container. Amra wants to check if everything is set and asks Edin whether he also brought the flour. He replies:
　　　　Da, donio　　　　　sam　✓**brašno**/**brašna**.
　　　　yes　brought.1SG.M.PFV AUX　flour.SG.ACC/flour.SG.GEN
　　　　'Yes, I brought the flour.'

　　b.　COUNT NOUN: Amra and Edin were packing for vacation. Amra was packing light which means she wouldn't pack 15 dresses as usual, but only a few. The day before she already prepared what she wanted to take for vacation. The few dresses she wanted to pack lay on the couch. She asked Edin to bring them into the bedroom. He came with the dresses in hand and says:
　　　　Evo, donio　　　　　sam ti　　✓**haljine**/**haljina**.
　　　　here　brought.1SG.M.PFV AUX you.DAT　dresses.PL.ACC/dresses.PL.GEN
　　　　'Here, I brought the dresses to you.'

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[15]　In the paper, we do not follow Khrizman's (2014) terminology, i.e., we use the term *unfamiliar* amount, instead of *indefinite* amount.

(27) LARGE AMOUNT:

    a. CONTEXT: The same as in (26) but this time it is a special episode in which they are baking for the whole army, so the containers with the ingredients Edin prepared are very big. Flour is stored in **one big container**.

       Donio   sam   ✓**brašno**/**brašna**.

       brought.1SG.M.PFV AUX flour.SG.ACC/flour.SG.GEN

       'I brought the flour.'

    b. CONTEXT: The same as in (26) but this time flour is stored in **many big containers**.

       Donio   sam   ✓**brašno**/**brašna**.

       brought.1SG.M.PFV AUX flour.SG.ACC/flour.SG.GEN

       'I brought the flour.'

    c. CONTEXT: Amra and Edin are hosting a baking workshop. For each of the twenty participants they need all the ingredients in separate packings. So Amra went to a store to buy such **small packings** of flour, and when she came back she told Edin:

       Kupila   sam   ✓**brašno**/**brašna**.

       bought.1SG.F.PFV AUX flour.SG.ACC/flour.SG.GEN

       'I bought the flour.'

(28) UNFAMILIAR AMOUNT:

    a. MASS NOUN: Amra asks Edin to bring her flour from a cupboard (she does not have in mind a specific amount of flour). He comes back with the flour and says:

       Donio   sam   **brašno**/**brašna**.

       brought.1SG.M.PFV AUX flour.SG.ACC/flour.SG.GEN

       'I brought flour.'

    b. COUNT NOUN: Edin decided to make Amra a surprise so he went to Mango and bought dresses for her. When he came back home he told Amra:

       Kupio   sam   (ti)   **haljine**/✓**haljina**.

       bought.1SG.M.PFV AUX you.DAT dresses.PL.ACC/dresses.PL.GEN

       'I bought dresses (for you).'

The test items from the forced choice task in (26)–(28) were re-tested with four Bosnian native speakers in an acceptability judgement task (in a direct elicitation). In this task, the language consultants were asked to decide on scale from 1–7 how acceptable is the target sentence (with either the accusative or the genitive) in the given context ('1' means that the sentence is not acceptable at all and '7' means that the sentence is completely acceptable).

The results of both tests corroborate and show that once the maximality is satisfied, as in (26) and (27), the accusative is the preferred option (for both mass and plural count nouns) irrespective of the amount of stuff itself, i.e., whether the amount is small or large. **Table 3** summarizes the mean and median ratings of these tests.[16,17]

As for the unfamiliar amount reading, the genitive case is the preferred option for plural count nouns. For mass nouns, on the other hand, both the accusative and the genitive case are acceptable.[18] Note, however, that although the context in (28a) controls for an unfamiliar amount of the discourse referent, it does not specify the (non)-maximality of the discourse referent, i.e., whether the amount of flour brought by Edin was as much as they needed or not. Since both options are pragmatically plausible, it comes out as no surprise that none of the cases turn out to be more preferred over the other. As for (28b), on the other hand, it seems the *dresses* are actually non-familiar (they are bought as a surprise) and for that the genitive case is preferred over the accusative. The results are summarized in **Table 3**.

	accusative			genitive			ex.
	mean	**median**	**items**	**mean**	**median**	**items**	
small amount	6.8	7.0	6	4.6	5.0	6	(26)
large amount	6.8	7.0	9	4.2	4.0	9	(27)
unfamilliar amount	5.4	6.0	6	5.7	6.0	6	(28)

Table 3: Mean and median acceptability ratings of sentences with the accusative and the genitive in contexts targeting small, large, and unfamiliar amount of stuff denoted by the NP.

Since it is difficult to disentangle the (weak) familiarity of the discourse referent from the weak familiarity of the quantity of stuff denoted by the NP in the forced choice and the acceptability judgement task, we ran an inference task targeting the latter. In this task, six language consultants were presented with sentences containing the target plural noun in the accusative or in the genitive case, as demonstrated in (29). The language consultants' task was to judge on a scale 1–7 whether the sentence suggests that the speaker and hearer are familiar

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[16] As for the amount of stuff denoted by plural count nouns, one has to note that the denotation of count nouns can be individuated and thus counted, which is why a mere reference to a coarsely determined quantity of it such as *large, a lot* is not as common as with mass nouns.

[17] The numeric results from the acceptability judgment task are as follows: in the small amount and large amount context, the accusative variant was judged on average with 6.8, while the genitive alternate was judged with 4.6 in a small amount context and with 4.2 in a large amount context.

[18] The numeric results from the acceptability judgment task are following: in the case of mass nouns: 6.3. on average for the accusative variant and 5.3 for the genitive variant. In case of plural count nouns: 4.5 for the accusative variant and 6.1 for the genitive alternate.

with the quantity of stuff denoted by the NP: '1' means that the sentence does not suggest it at all and '7' means that the sentence very strongly suggests the familiarity of the quantity of stuff denoted by the NP.

(29)   a. Edin kaže: Kupio   sam haljine.
            Edin says.3SG.PRES bought.1SG.M.PFV AUX dresses.PL.ACC
            'Edin says: I bought the dresses.'

       b. Edin kaže: Kupio   sam haljina.
            Edin says.3SG.PRES bought.1SG.M.PFV AUX dresses.PL.GEN
            'Edin says: I bought (some) dresses.'

While the sentences with the accusative were ranked on average with 6.8, the sentences with the genitive were ranked on average with 2.1. Thus the results suggest that while the use of the genitive is associated with the unfamiliar quantity of stuff denoted by the NP, the accusative is associated with the familiar quantity of stuff denoted by the NP, pointing to the same direction as the results of the forced choice and acceptability judgement tasks discussed above.

	accusative	genitive
strong familiarity	–	–
visual access	✓	–
globally familiar entities	✓	–
bridging	✓	–
maximality	✓	–
non-maximality	–	✓
unfamiliar amount	–	✓
small (familiar) amount	✓	–
large (familiar) amount	✓	–

Table 4: Generalizations drawn from the empirical diagnostics reported in Section 3. '✓' marks the preferred case and '–' the dispreferred case in the given context. When '–' appears twice in the row, it means that there is no preference for either case in the given context.

To conclude this section, let us comment on the connection between familiarity and maximality. We put forward that maximality of a discourse referent implies (weak) familiarity of the same referent. That is, one cannot be (weakly) unfamiliar with something while at the same time knowing what counts as maximal of that same thing. We conclude that, when a context is unspecified regarding maximality, then the insertion of accusative case is driven by the (weak) familiarity of the discourse referent. However, when a context does specify (non-)maximality, then maximality drives the insertion of accusative case and non-maximality drives the insertion of genitive case.

To summarize the whole section, the results of the empirical diagnostics show that the use of the accusative vs. the (partitive) genitive in the case of the accusative/genitive alternation in BCS is regulated by weak familiarity and maximality. While the accusative conveys weak familiarity and maximality of the discourse referent, the genitive is the preferred option when the discourse referent is unfamiliar and non-maximal.[19] The summary of the results of the applied diagnostics is given in **Table 4**.

4 Semantic status of the meaning conveyed by the accusative and the genitive in the accusative/genitive alternation

This section discusses the semantic status of the (un)familiarity inferences of sentences with the accusative vs. the genitive in the case of the accusative/genitive alternation. In particular, we examine whether they are projective and/or cancelable.

To test the projective properties of the (un)familiar inferences of the accusative and the genitive, we ran inference tasks, exemplified in (30)–(32). In this task, six language consultants were provided with sentences containing the noun either in the accusative or in the genitive embedded in the scope of negation, as in (30), questions, as in (31), and antecedent of conditionals, as in (32).[20] The language consultants were asked to judge on a scale of 1 to 7 how strong the utterance suggests that Edin and Amra were familiar with (i) the dresses and (ii) the number of dresses they were talking about in the case of sentences with the accusative and how strong the sentence suggests that Edin and Amra weren't familiar with (iii) the dresses and (iv) the number of dresses in the case of sentences with the genitive. '1' means that the target sentence does not suggest the inference at all and '7' means that the sentence suggests the inference very strongly. High scores of the inference strength would then suggest that the inference is projective. By contrast, low judgments of the strength of the inference would suggest that the inference does not project.

(30)   Negation:
       Edin kaže: Nisam   kupio   haljine/haljina.
       Edin says.3SG.PRES NEG.1SG bought.1SG.M.PFV dresses.PL.ACC/dresses.PL.GEN
       'Edin says: I did not buy (the) dresses.'

(31)   Question:
       Amra pita   Edina: Jesi li kupio   haljine/haljina?
       Amra asks.3SG.PRES Edin.ACC AUX Q bought.2SG.M.PFV dresses.PL.ACC/dresses.PL.GEN
       'Amra asks Edin: Did you buy (the) dresses?'

---

[19] This represents an analogy with what Franks (1995) refers to as the *genitive of indeterminate quantity* coined by Babby (1980).

[20] Note that by testing projection out of negation, we are actually dealing with the *genitive of negation*. Nonetheless, the inference task yielded the same results in negated sentences as in questions or conditionals. We would like to stay agnostic though with regard to the possibility of a unified analysis of different non-canonical uses of the genitive.

(32) CONDITIONAL:

Amra kaže   Edinu: Ako ti   kupiš   haljine/haljina,
Amra says.3SG.PRES Edin.DAT if   you buy.2SG.PRES dresses.PL.ACC/dresses.PL.GEN
ja ću tebi   kupiti   pantalone.
I   will you.DAT buy.INF trousers.PL.ACC
'Amra says to Edin: If you buy (the) dresses, I will buy trousers for you.'

(33) Inferences that (30)–(32) give rise to (together with the respective assertions):
with Acc:
⤳ *Edin and Amra are familiar with the dresses*
⤳ *Edin and Amra are familiar with the amount of dresses*
with Gen:
⤳ *Edin and Amra are not familiar with the dresses*
⤳ *Edin and Amra are not familiar with the amount of dresses*

The outcome of these tests suggests that the (un)familiar inferences of both the accusative and the genitive project out of the scope of negation, questions, and conditionals. The language consultants gave on average a score of 6.7 and 5.8 for familiar discourse referent inference and familiar amount of stuff denoted by the NP inference, respectively, in the case of sentences with the accusative as well as 5.6 for the inference of unfamiliar discourse referent and 5.3 for unfamiliar quantity of stuff denoted by the NP in the case of sentences with the genitive. **Table 5** summarizes the mean and median ratings of these inferences.

	accusative			genitive			ex.
	mean	median	items	mean	medain	items	
familiar DR	6.7	7.0	1	na	na	na	(30)–(32)
familiar amount	5.8	7.0	1	na	na	na	(30)–(32)
unfamiliar DR	na	na	na	5.6	6.0	1	(30)–(32)
unfamiliar amount	na	na	na	5.3	6.0	1	(30)–(32)

Table 5: Endorsement of the familiar and unfamiliar inferences of sentences with the accusative and the genitive case. 'DR' stands for 'discourse referent'.

Examining the projective properties of the maximality inference triggered by the accusative in the case of the accusative/genitive alternation is pragmatically odd. For example, the maximality inference triggered by the accusative in the case of positive sentence *Kupio sam haljine* 'I bought dresses$_{acc}$' says that the speaker bought the whole, intended amount of dresses. Now consider (30). To check whether the maximality is projective, it would mean asking the consultants,

whether it follows from this sentence that the there is the maximal amount of dresses that the speaker did not buy which in terms of Heim (2011) would equal the existence presupposition that the dresses exist and would be trivially satisfied if there are dresses.[21]

As for the cancellation of the inference of the accusative and the partitive genitive, i.e., (un)familiarity and (non)maximality of the discourse referent, the tests are difficult to construct because once a discourse referent is introduced in the discourse it does not seem intuitive to cancel its familiarity. Nevertheless, we tried some scenarios aimed at testing for it.

The tests in (34) aimed to cancel the familiarity inference of the accusative with an appropriate continuation of the utterance. Three language consultants judged these sentences acceptable with an average rating of 6.2. The cancellation of the unfamiliar inference of sentences with the partitive genitive in (35) was not judged that good; it merely got an average acceptability rating of 3.9.

(34)   CANCELLATION OF THE FAMILIARITY INFERENCE
    a. Kupila   sam haljine,   ali ne one što smo govorile
        bought.1SG.F.PFV AUX dresses.PL.ACC but not those that AUX talked.1PL.F.IPFV
        da ću   uzeti.
        that will.1SG buy.INF
        'I bought the dresses, but not the ones we talked I would buy'

    b. Kupio   sam brašno,   ali ne ono što smo govorili
        bought.1SG.M.PFV AUX flour.SG.ACC but not this that AUX talked.1PL.M.IPFV
        da ću   uzeti.
        that will.1SG take.INF
        'I bought the flour, but not the one we talked I would buy.'

(35)   CANCELLATION OF THE NON-FAMILIARITY INFERENCE
    a. Kupila   sam haljina,   zapravo baš   one koje smo
        bought.1SG.F.PFV AUX dresses.PL.GEN actually exactly those which AUX
        govorile   da ću   uzeti.
        talked.1PL.F.IPFV that will.1SG take.INF
        'I bought (some) dresses, actually exactly those we talked I would buy.'

    b. Kupio   sam brašna,   zapravo baš   ono što smo
        bought.1SG.M.PFV AUX flour.SG.GEN, actually exactly this that AUX
        govorili   da ću   uzeti.
        talked.1PL.M.IPFV that will.1SG take.INF
        'I bought (some) flour, actually the one we talked about.'

---

[21] Thanks to Radek Šimík (p.c.) for a discussion on that issue.

It seems that while the familiarity inference of the accusative is cancelable, the unfamiliarity inference of the genitive is not.[22] This empirical generalization is further supported by the data in (15), which demonstrate that the accusative can be used at the beginning of the conversation. This shows that the familiarity inference of the accusative must be cancelable as otherwise this example would not be acceptable.

Examples in (36) and (37) were created to test the cancellation of the maximality inference. The average acceptability rating of (36a) lies at 6.2 whereas (36b) reaches an average score of 3.8. Taking into account the language consultants' comments that they would have used the genitive rather than the accusative in the respective sentences point to the non-cancelable nature of the inference. It could be, however, that the low ratings reflect the preference of the genitive in that case (which is predicted since the speaker did not buy the intended amount of dresses) rather than the non-cancelable character of the inference of the accusative.

(36)   CANCELLATION OF THE MAXIMALITY INFERENCE
    a.   Kupila   sam haljine,   ali ne sve koje   smo planirale
        bought.1SG.F.PFV AUX dresses.PL.ACC but not all   which AUX planned.1PL.F.IPFV
        da   ću   uzeti.
        that will.1SG take.INF
        'I bought the dresses, but not all we planned I would buy.'

    b.   Kupila   sam brašno,   ali ne koliko   sam planirala.
        bought.1SG.F.PFV AUX flour.SG.ACC but not how.much AUX planned.1SG.F.IPFV
        'I bought the flour, but not as much as I planned.'

A likewise acceptability judgement task of the non-maximality inference of the genitive, as illustrated in (37), yields an acceptability rating of 4.5 in (37a) and 5.0 in (37b). These scores do not provide a strong tendency and we cannot conclude from this that the inference is or is not cancelable apart from the conceptual difficulties of conducting such tests. The mean and median rating are summarized in **Table 6**.

(37)   CANCELLATION OF THE NON-MAXIMALITY INFERENCE
    a.   Kupila   sam haljina,   zapravo sve koje   smo govorile
        bought.1SG.F.PFV AUX dresses.PL.GEN actually all   which AUX talked.1PL.F.IPFV
        da   ću   uzeti.
        that will.1SG take.INF
        'I bough (some) dresses, actually as many as planned.'

---

[22] Note, however, that again it is very difficult to disentangle here familiarity from maximality. For example, (35) seems to not be able to cancel maximality (as well as familiarity).

b. Kupila   sam brašna,   zapravo baš   koliko   mi   je
   bought.1SG.F.PFV AUX flour.SG.GEN actually exactly how.much I.DAT AUX
   i   trebalo.
   and needed.3SG.N.PFV
   'I bought (some) flour, actually exactly as much as I needed.'

inference	accusative			genitive			ex.
	mean	median	items	mean	median	items	
familiar DR	6.2	7.0	2	na	na	na	(34)
non-familiar DR	na	na	na	3.9	2.75	2	(35)
maximal plural DR	6.2	6.0	2	na	na	na	(36a)
maximal mass DR	3.8	4.0	2	na	na	na	(36b)
non-maximal plural DR	na	na	na	4.5	5.0	2	(37a)
non-maximal mas DR	na	na	na	5.0	6.0	2	(37b)

Table 6: Mean and median acceptability ratings of the inference cancellation in sentences with the accusative and the genitive case. 'DR' stands for 'discourse referent'.

In sum, the results of the inference tasks targeting the projective properties of the presumed inferences of the accusative and the genitive suggest that the familiarity inference of the accusative and the unfamiliarity inference of the genitive do project out of embedded constructions, as attested in (30)–(32). Due to conceptual obstacles in testing the cancelability of the familiarity and maximality inference, we cannot provide strong evidence in favor or against the cancellation property of these inferences.

5 Analysis

In the accusative/genitive alternation discussed in the paper we are focusing on the partitive genitive. We propose that the partitive genitive in BCS encodes the proper subpart relation at the presuppositional level. The familiarity and maximality inferences of the accusative, on the other hand, arise as an implicated anti-presupposition yielded by the competition with the partitive genitive. The next two sections present the details of the analysis.

5.1 The Partitive Genitive in BCS

There is an ongoing discussion in the literature whether partitive constructions across languages encode proper partitivity or just a part-of relation (for a proper-part view, see e.g., Barker 1998; Zamparelli 1998, for a part-of relation view see e.g., Krifka 1992; Ionin et al. 2006; Marty 2017; 2019).

While the proper partitivity view says that only proper subparts of the entity are in the extension of the partitive nominal phrase (the supremum is excluded), the part-of view allows all parts to be in the extension of the partitive nominal phrase (the supremum is included), as illustrated in (38):

(38)   a.   PROPER PARTITIVITY, $<$:
           all proper parts of $a \oplus b \oplus c$ are as follows: $a,b,c, a \oplus b, a \oplus c, b \oplus c$
           (the supremum is excluded)

       b.   PART-OF, $\leq$:
           all parts of $a \oplus b \oplus c$ are as follows: $a,b,c, a \oplus b, a \oplus c, b \oplus c, a \oplus b \oplus c$
           (the supremum is included)

The proper partitivity analysis by Barker (1998), see (39), was developed among others to account for the anti-uniqueness phenomenon (Jackendoff 1968; Barker 1998), an observation that the partitive construction in English is incompatible with the definite determiner, as demonstrated in (40):

(39) $of_{part} = \lambda x \lambda P \lambda y.(P(y) \wedge y < x)$ (Barker 1998: 698)

(40)   *I met the [one of John's friends].   (Barker 1998: 679)

The assumption is that plural denotation consists of atomic entities and all the pluralities formed out of them. For example, the denotation of *John's friends* is as in (41), assuming that he has only three friends: *a, b, c.*

(41)   John's friends $= \{a, b, c, a \oplus b, a \oplus c, b \oplus c, a \oplus b \oplus c\}$

Now, due to the proper partitivity encoded by *of*, the denotation of *of John's friends* includes all proper subparts of *John's friends* but not the supremum, as illustrated in (42):

(42)   of John's friends $= \{a, b, c, a \oplus b, a \oplus c, b \oplus c\}$

Subsequently, (42) cannot combine with the definite determiner *the* which encodes the uniqueness presupposition, i.e., there is no unique plural individual in the denotation of (42) that could be picked up by the definite determiner and hence *the* cannot combine with the partitive nominal phrases in English.

By contrast, Marty (2017; 2019)[23] developed an analysis of English partitives in which partitivity is just a part-of relation, encoded both at the assertion and the presuppositional level, as in (43):

(43) $of_{part} = \lambda x \lambda P \lambda y: (P(y) \wedge y \leq x).(P(y) \wedge y \leq x)$ (Marty 2019: 152)

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[23] See also Ionin et al. (2006) for a part-of relation analysis of English partitives.

The proper partitivity, on the other hand, is an implicated anti-presupposition. Implicated anti-presuppositions are computed in the same way as scalar implicatures but at the presuppositional level (Sauerland 2008). Like presuppositions, they are projective. However, like conversational implicatures, they arise as a result of competition with the non-weaker alternative. For example, the indefinite partitive in (44a) has as its competitor the definite alternative in (44b):

(44)   a.   Three of the lawyers showed up.   INDEFINITE PARTITIVE
       b.   The three lawyers showed up.   DEFINITE ALTERNATIVE
                                                               (Marty 2019: 154)

By Gricean reasoning, while hearing (44a), the hearer would ask herself why the speaker did not use the stronger alternative in (44b). Given that (44b) would have been more informative than (44a), the listener will come to the conclusion that the speaker must believe that (44b) is false. But then if (44a) is true and (44b) is false, we end up with the proper-partitivity meaning:

(45)   It is true that there is a plural individual that consists of three lawyers and it's not true that there is a **unique** plural individual that consists of three lawyers.
       = there must be more than three lawyers (a plural individual that consists of three lawyers is a proper subpart of the lawyers)

The obtained meaning is that *three lawyers* cannot be a supremum so there must be more than three lawyers and hence the proper partitivity meaning arises. Importantly, for Marty's (2017, 2019) analysis of proper partitivity as an implicated anti-presupposition, it is crucial that the partitive construction has its definite alternative, as in (44b).

Turning to the partitive genitive in BCS, as it does not have a definite competitor, it is difficult to see how the implicature analysis could be extended to BCS.[24,25] For that, in the analysis of the partitive genitive in BCS, we follow Barker (1998) in proposing that it encodes proper partitivity. We do nevertheless propose that the proper partitivity is presupposed rather than asserted, as demonstrated in (46).[26,27]

(46) $\text{Gen}_{part} = \lambda P \lambda x : \exists y (P(y) \land x < y).P(x)$

---

[24] Or it would require to make non-trivial stipulations about the alternatives in BCS. For that it seems to us that following Barker's (1998) proper partitivity analysis is more parsimonious.

[25] Another possibility would be to assume that the accusative forms a definite alternative to the partitive genitive in BCS. We are not following this path though as the results of our empirical studies suggest that definiteness is not encoded in the semantics of the accusative. Moreover, it seems that using the genitive in the case of the accusative/genitive alternation is a marked form, a competition with which yields the definite interpretation of the accusative in these cases.

[26] The lexical entry we propose is based on Krifka's (1992) lexical entry of the partitive:

   (i) $\text{Part} = \lambda P \lambda x' \exists x.P(x) \land x' \sqsubseteq x$ (Krifka 1992: 47)

[27] Following Heim & Kratzer (1998), we are writing the presupposed material between a colon and dot.

(47) Kupio   sam haljina.
      bought.1SG.M.PFV AUX dresses.PL.GEN
      'I bought (some) dresses.'
      PRESUPPOSITION: There is a (plural) individual of dresses and x is a proper subpart of
      this plural individual.
      ASSERTION: I bought dresses.

Since the partitive genitive in BCS encodes proper partitivity, it straightforwardly accounts
for non-maximality effects observed with the genitive in the case of the accusative/genitive
alternation discussed in Section 3.2. As an effect of using the partitive genitive, the supremum is
excluded from the partitive nominal phrase. Hence, the partitive genitive cannot combine with
the maximal discourse referent which denotes a supremum. Thus the analysis is compatible with
the infelicity of the combination of the quantifier *sve* 'all' with a noun in the genitive case.

(48) Kupila   sam sve haljine/*haljina.
      bought.1SG.F.PFV AUX all   dresses.PL.ACC/dresses.PL.GEN
      'I bought all dresses.'

It also straightaway accounts for the observation that the partitive genitive in BCS cannot
combine with singular count nouns, as illustrated in (49).

(49) Kupila   sam haljina/*haljine.
      bought.1SG.F.PFV AUX dresses.PL.GEN/dress.SG.GEN
      'I bought (some) dresses/ *dress.'

An assumption is that singular count nouns have only atomic entities in its denotation. For
example, assuming that there are only three dresses in the world, the denotation of the singular
count noun *dress* is as in (50):

(50) dress = {*a, b, c*}

Now, combining the partitive genitive with a singular count noun would mean that there is a
proper subpart of the plural entity, i.e., that there is a plural individual that consists of at least
two dresses. This in turn would mean that the denotation of the noun consists of the pluralities
formed out of the atomic singular entities which effectively means that the noun is plural, not
singular.

   Assuming that the proper partitivity is presupposed can account for the observation that
the unfamiliar quantity inference of the partitive genitive is projective (modeling it as a part
of assertion would not allow to account for the projective data). Consider (31) repeated below:

(51) Amra pita Edina: Jesi li kupio haljina?
      '*Amra asks Edin: Did you buy dresses_{gen}?*'

The partitive genitive presupposes that there is a proper subpart of dresses but does not specify their amount. Therefore, the projection of the unfamiliar inferences is predicted and hence the high judgments of the language consultants regarding the question of whether the speaker and the hearer were unfamiliar with the amount of dresses bought by Edin.

5.2 The inferences of the accusative in the accusative/genitive alternation in BCS

As for the accusative, we propose the following lexical entry in (52) across its different uses (not only in the case of the accusative/genitive alternation). This lexical entry is underspecified with respect to maximality and familiarity, which is a wanted result as to the best of our knowledge the discussed inferences of the accusative arise only in the case of the accusative/genitive alternation.

(52) $\text{Acc} = \lambda P \lambda x. P(x)$

We propose that the familiar inference of the accusative comes out as a result of competition with the genitive, as an implicated anti-presupposition (Sauerland 2008; Marty 2019).

(53)   Competitors at the accusative/genitive alternation:
a.   Kupio   sam haljine.
bought.1SG.M.PFV AUX dresses.PL.ACC   ACCUSATIVE
'I bought the dresses.'

b.   Kupio   sam haljina.
bought.1SG.M.PFV AUX dresses.PL.GEN   PARTITIVE GENITIVE
'I bought (some) dresses.'
PRESUPPOSITION: There is a (plural) individual that consists of a proper subpart of dresses.

The sentences with the partitive genitive in (53b), unlike the sentence in the accusative in (53a), presupposes the proper partitivity meaning. By hearing (53a), the hearer would ask herself why the speaker did not use the presuppositional stronger alternative in (53b). By Gricean reasoning, the hearer will come to the conclusion that the speaker must believe that (53b) is false. But then if (53a) is true and (53b) is false the maximality inference that I bought the maximal plural individual of dresses arises.

(54)   It is true that I bought dresses and it is not true that I bought the proper subpart of dresses =
I bought a maximal plural individual of dresses.

It has also been shown in Section 3.1 that the sentences with the accusative (in the case of the accusative/genitive alternation) give rise to weak familiarity of the discourse referent. We

propose that it is a by-product of the maximality inference triggered by the competition with the partitive genitive. The weak familiarity comprises cases in which a discourse referent is perceptually accessible, globally familiar due to the general knowledge, introduced by contextual existence entailments, and bridging. Crucially, all these cases typically require the reference to the maximal discourse referents. Hence the preference for the accusative over genitive in these cases.

Moreover, as predicted by the analysis of the inferences of the accusative as implicated anti-presuppositions, both the familiarity and the maximality inferences are cancelable. It means, the contextual factors can prevent the endorsement of the inference. It also accounts for the observation that the choice of the accusative case over the genitive is the preferred option but not the only possible one. Since contextual factors can prevent the inference endorsement, the variation in the language consultant's judgments is predicted.

Finally, since the accusative case yields the maximality inference, the amount of the stuff denoted by the NP is maximal and hence familiar to the speaker and the hearer. Thus the analysis explains the familiarity of the amount data discussed in Section 3.3.

To sum up, the analysis of the partitive genitive in BCS as presupposing the proper partitivity and the inferences of the accusative as arising due to the competition with the partitive genitive (as implicated anti-presuppositions) successfully accounts for the empirical generalizations we discussed in Section 3 and 4.

6 Conclusion

The paper presented a field research study on the inferences of the accusative and the partitive genitive in the case of the accusative/genitive alternation in BCS. The results of the study show that while the accusative conveys weak familiarity and maximality, the genitive does not. We propose that the partitive genitive in BCS presupposes proper partitivity. The inferences of accusative, on the other hand, arise as implicated anti-presuppositions originating from competition with the genitive. By that, the study sheds light on the nature of the accusative/genitive alternation in BCS and the nature of the inferences triggered by morphological case markers more general.

Abbreviations

The following glosses are used in this paper: 1 = 1st person, 2 = 2nd person, 3 = 3rd person, SG = singular, PL = plural, AUX = auxiliary, NEG = negation, ACC = accusative, GEN = genitive, NOM = nominative, VOC = vocative, DAT = dative, LOC = locative, REFL = reflexive, PFV = perfective, IPFV = imperfective, INF = infinitive, PRES = present tense, F = feminine, M = masculine, N = neuter, Q = question particle, '✓' = (i) in forced choice tasks: the preferred alternate, (ii) in acceptability judgment tasks: the constructions with significantly better ranks.

Supplementary files

The supplementary files for this article are publicly available at the open repository platform osf.io. The project "Accusative/Genitive alternation in Bosnian/Croatian/Serbian" (DOI 10.17605/OSF.IO/A3SPT) contains two files:

- Supplementary file 1: Field Research Data

  This file contains the full list of test items used in the acceptability and inference tasks reported in the article.

- Supplementary file 2: Individual judgements

  This Excel sheet contains the results of the studies reported in this article, i.e. all individual judgements of the language consultants for all test items with references to the examples in this article and to the test items in the supplementary file 1.

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Competing interests

The authors have no competing interests to declare.

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