Morphosyntactic variation in numerically-quantified noun phrases in Bulgarian

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ABSTRACT

Bulgarian masculine nouns have a special form – a 'count' form – different from singular and plural, which is used in numerically-quantified nominal phrases. The count form is analyzed here as accusative singular. Several empirical arguments are offered in support of this unusual account, and potential challenges are addressed. The account places Bulgarian among an understudied group of languages, where singular vs. plural marking on nouns in numerically-quantified nominal phrases varies by noun class.

KEYWORDS numerals · nominal number · noun-class split · Bulgarian

1 THE BULGARIAN COUNT FORM

1.1 CORE DATA

Bulgarian masculine nouns, both human- and non-human-denoting (traditionally called 'personal' and 'non-personal'), have a special form – a 'count' form – distinct from singular and plural, see (1). The count inflection is fully productive and applies to recently borrowed and novel nouns, as long as they are categorized as masculine, see (2).

(1) a. stol   -∅ / -ove / -a   b. pop   -∅ / -ove / -a
          chair.M.NH SG   PL   CN   priest.M.H SG   PL   CN

(2) a. blog   -∅ / -ove / -a   b. blik   -∅ / -ove / -a
          blog.M.NH SG   PL   CN   nonce.M   SG   PL   CN

The count form is only used in combination with cardinal numerals (apart from *edin* 'one', which requires singular nouns) and with certain quantity expressions, e.g. *njakolko* 'several', *kolko* 'how many/much', *tolkova* 'that many/much'. It cannot be used on its own or in combination with other quantity expressions, e.g., *mnogo* 'many/much', *malko* 'a few/little', colloquial *suma ti* 'a lot', which require the plural form. See (3)–(4).

(3) * (pet / njakolko / kolko)   stol-a
        five several   how-many/much chair.M.NH.-CN
        'five/several/how many chairs'

(4) a. edin   stol
          one.M.SG chair.M.NH.SG
          'one chair'
      b. mnogo   stol-ove   / * stol-a
          many/much chair.M.NH.-PL   chair.M.NH.-CN
          'many chairs'

Contemporary norms prescribe the count form only for non-human-denoting masculine nouns, as in (3). Human-denoting masculine nouns are supposed to appear in their

plural form, and when accompanied by lower numerals, the numerals need to take an additional *-(i)ma* suffix, as in (5).[1] See e.g., Pašov (2015: 69–70), Hristozova (2012).

(5)   pet(-ima) / njakolko / kolko   student-i
        five(-M.H)   several   how-many/much student.M.H-PL
        'five/several/how many students'

The norms are observed in formal registers, but in colloquial speech there is variation: masculine human nouns can appear in the count form and masculine non-human nouns in the plural form. The variation is noted in grammar books and traditional descriptive studies (e.g., Pašov 2015: 69–70, Hristozova 2012) and is modeled as grammars in competition in the context of language change in Pancheva (2018): an older grammar of count marking is being replaced by a grammar of plural marking, with the change being more advanced for masculine human nouns.

Feminine and neuter nouns only show a singular-plural distinction – they do not have a count form – and they appear in their plural form when they combine with cardinal numerals other than *edna/edno* 'one' and with quantity expressions like *njakolko* 'several' (and with *mnogo* 'many/much'), (6).[2]

(6)   pet / njakolko / kolko   mas-i   / legl-à
        five   several   how-many/much table.F-PL   bed.N-PL
        'five/several/how many tables' / 'five/several/how many beds'

The count form appears to be a fairly recent innovation in Bulgarian, first being attested in texts from the 17th century (Mirčev 1978: 196). Its origin lies in the loss of the Old Slavic dual, a historical development which in other Slavic languages gives rise to the genitive singular form of nouns used in combination with paucal numerals 'two', 'three', and 'four'.

The distribution of the count form suggests that it is a kind of plural: it is incompatible with numeral 'one', and its counterpart in numerical structures is the plural form of feminine and neuter nouns, and of masculine human nouns in the normative grammar. Furthermore, numerically-quantified nominals with count-marked nouns trigger plural agreement with finite verbs and participles, (7-a), and with predicative adjectives, and they antecede plural pronouns (the last two properties are not illustrated here). In this respect, they behave like nominals with plural-marked nouns, (7-b). External agreement thus appears to lend support to an analysis of the count form as morpho-syntactically plural. The same can be said for DP-internal concord. Attributive adjectives that modify count-marked nouns, and that are merged below the numeral/numerical quantifier, also appear to be plural, (7-a)[3], just like adjectives modifying plural-marked nouns, (7-b).

(7)   a.   Pet / njakolko nov-i   stol-a   bjaha   nareden-i   v
              five   several   new-PL chair.M.NH-COUNT be.PAST.3PL arranged-PL in
              redica.
              line
              'Five/several new chairs were arranged in a line.'
        b.   Nov-i   stol-ove   bjaha   nareden-i   v redica.
              new-PL chair.M.NH-PL be.PAST.3PL arranged-PL in line
              'New chairs were arranged in a line.'

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[1]Cinque & Krapova (2007) propose that the suffix is a bound numeral classifier (as in Hurford 2003). It is typically present with numerals *dva* 'two' to *šest* 'six'; it is not possible with numerals *sedem* 'seven' and *osem* 'eight', likely for phonological reasons, and may be replaced by the suffix *-ina*, though these numerals often appear without any suffix. With higher numerals, *-(i)ma* is again possible, but less likely to be used.
[2]The neuter plural inflection in (6) bears stress, unlike the count inflection, which is never stressed.
[3]Though I will argue that the adjective in (7-a) is not in fact marked plural, and the appearance is deceiving.

1.2 ANALYSES OF THE COUNT FORM

The count inflection has traditionally been thought of as a form of plural nominal number (e.g., Mirčev 1978: 195, Tilkov et al. 1993b: 108–109, Pašov 2015: 69–71, Hristozova 2012: 301, Mikova 2017), a position also taken in formal accounts (e.g., Tasseva-Kurktchieva 2006, Cinque & Krapova 2007, Wellwood et al. 2012). Its dependency on numerical expressions is consistent with its analysis as a special plural, one that is confined to specific structures through a syntactic dependency relation with the numerical quantifier. Given that Bulgarian has lost almost all morphological expression of case, this relation is likely not case-licensing but agreement. Indeed, this is what is assumed, implicitly or explicitly, by most prior accounts. The identity of the adnumerative feature, let's call it α, is usually left unspecified. The restriction of the count inflection to masculine nouns could be attributed to morpho-syntactically conditioned allomorphy: the exponence of [α] on feminine and neuter nouns could be said to be phonologically null, with only [Num: PL] realized overtly, while [α, Num: PL] is overtly expressed by the count suffix on masculine nouns. This sums up the consensus view.

A modification to this view holds that the adnumerative relation is number agreement, with the count form expressing a number feature that is distinct from singular and plural (Ionin & Matushansky 2018: 199–204; Ouwayda 2014): masculine nouns are thus marked [Num: α]. A more radical departure is found in Stepanov & Stateva (2018), who suggest that the count inflection instantiates a countability functional head, which makes the noun, which on its own denotes a kind, 'atomized', i.e., interpreted as a predicate of atomic individuals, and thus semantically suitable for counting. In a sense, as they note, the count morphology is "an affixal classifier".

Yet, despite the plausibility of analyzing the count form as encoding plural number (or at least a number distinct from singular), and the implausibility of analyzing it as encoding case, this paper argues that the count inflection is in fact accusative singular, [Case: α = ACC, Num: SG]. This idea was originally suggested in Pancheva (2018); here two new arguments are offered in support (§3.2 and 3.3), and a potential counterargument is considered and reconciled with the proposal (§3.5). The new contribution of this paper concerns singular number; accordingly, the accusative case will be simply assumed, and thus, backgrounded here.[4] Additionally, the external plural agreement seen in (7-a) is attributed to a second, plural number feature, structurally higher than the numeral and visible on demonstratives and adjectives that precede the numeral, as in (8).[5,6] Finally, the apparent plural number concord between the noun and the post-numeral adjective, also seen in (7-a), is reanalyzed: the -i suffix does not actually express plural number, but marks the augmented form of attributive adjectives (the so-called 'long form'), which is the form these adjectives take when they modify overtly case-marked masculine singular nouns (whether the case is nominative, accusative or vocative); the reanalysis is reflected in the new gloss in (8).

(8)   tezi   posledn-i pet nov-i   stol-a
       this.PL last-PL   five new-M.ACC.SG(→AUG) chair.M.NH-ACC.SG
       'these five new chairs'

Example (8) exhibits 'mixed concord' (Norris 2017), i.e., the numeral demarcates two

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[4]In Pancheva (2018), the case feature is called 'objective'; here 'accusative' is used, without substantive difference. Historically, the case was accusative, replacing an older partitive genitive case that was itself initially confined to numerals 'five' and up, but later became associated with all numerals (Mirčev 1978: 194, 283–284). Thus, although the identity of the case feature in the Bulgarian count form is different from the genitive case seen in other Slavic languages, there is a historical continuity.

[5]From now on, I use numerals as illustration, but the analysis also covers the other numerical expressions that combine with the count form.

[6]While the suffix -i realizes the plural feature on the pre-numeral adjective, the plural feature on the demonstrative is not expressed by the final i, which is also present on singular-marked demonstratives, cf. *tozi* 'this.M.SG', *tazi* 'this.F.SG', and is absent in the colloquial alternatives *toz* 'this.M.SG', *taz* 'this.F.SG', *tez* 'this.PL'.

syntactic domains, with concord in plural number in the higher domain, and concord in singular number, masculine gender and accusative case in the lower domain.

The analysis of the count form as accusative singular reframes the noun-class split in numerically-quantified nominals. Rather than reflecting allomorphy of the plural suffix, the split must be due to a difference in the morpho-syntactic features of the nouns, or at least their number feature. I suggest that the differential number marking is not the result of a post-syntactic impoverishment that deletes the plural number feature from masculine nouns in numerically-quantified contexts. Rather, the split is due to the involvement of two null measure expressions that link numerals and numeral quantifiers to the nouns, and that have different morpho-syntactic and semantic properties.

2   THE STRUCTURE OF THE COUNT, SINGULAR, AND PLURAL FORM

2.1   THE COUNT INFLECTION AND THE COUNT–MASS DISTINCTION

Bulgarian makes a grammatical distinction between count and mass nouns. Evidence for this comes from the interpretation of nominal phrases with quantity expressions like *mnogo* 'many/much', *kolko* 'how many/much' and others, which are not specified for measurement along cardinality or non-cardinality dimensions but allow both. Such quantity expressions cannot combine with singular nouns that denote predicates of objects, e.g., *stol* 'chair', but are acceptable with nouns that denote predicates of substances, e.g., *krem* 'cream', providing non-cardinality measures, see (9). The pattern holds irrespective of gender (e.g., *masa* 'table.F' vs. *supa* 'soup.F'; *leglo* 'bed.N' vs. *maslo* 'butter.N').

(9)   a.   * mnogo   stol
           many/much chair.M.NH.SG
           lit. 'much chair'

      b.   * kolko   stol
              how-many/much chair.M.NH.SG
              lit. 'how much chair'

      c.   mnogo   krem
           many/much cream.M.NH.
           'much cream'

      d.   kolko   krem
           how-many/much cream.M.NH.
           'how much cream'

The conclusion is that *stol* 'chair' and *krem* 'cream' not only belong to two conceptually distinct classes of nouns, but are also morpho-syntactically distinct even before they combine with the measure expression. A suitable way to model this difference is through the obligatory presence of a feature imposing division into atoms, e.g., DIV in Borer (2005), in the structure of *stol* 'chair' but not *krem* 'cream'. Departing from the details of Borer (2005), I represent the feature DIV on the functional head *n* that also categorizes roots as nominal and assigns them to a noun class (here masculine non-human), see (10).[7]

(10)   a. $[_{nP} \, n_{\text{M.NH−DIV}} \, \sqrt{\text{stol}} \,]$ b. $[_{nP} \, n_{\text{M.NH}} \, \sqrt{\text{krem}} \,]$

Cardinality measures obtain with plural- or count-marked mass nouns, (11), just as is the case for count nouns, (3)-(4-b). This suggests that DIV needs to be present in (11) (without an overt exponence), turning the mass noun 'cream' into a count one, with the approximate meaning of '(standardized) portion(s) of cream'.[8] The acceptable quantity structures and the dimensions along which they are interpreted are illustrated

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[7] That DIV is obligatorily present with notionally count nouns, making them grammatically count, requires qualification. There is a set expression where such nouns may be used with *mnogo* 'many/much', e.g., *mnogo stol, mnogo nešto* 'many/much chair, many/much something' is an emphatic way to say 'This is a very big chair'.

[8] In combination with notionally mass nouns, DIV corresponds to the 'packaging' function of e.g., Landman (1991). The 'packaged' conventional units are the counterpart of the natural units of notionally count nouns.

in (12). I assume that semantically interpretable number, whatever its value, requires the presence of a count structure, i.e., the feature DIV, and that the null singular number, seen in agreement and concord with grammatically mass nouns, is uninterpretable morpho-syntactic default.[9]

(11) a. mnogo   krem-ove   b. kolko   krem-a
          many/much cream.M.NH-PL   how-many/much cream.M.NH-CN
          'many creams'   'how many creams'

(12) a. mnogo/kolko $[\,n_{\text{M.NH}}\ \sqrt{\text{krem}}\,]$ *volume*
      b. mnogo $[\,\text{Num}_{[\text{PL}]}\,[\,n_{\text{M.NH-DIV}}\ \sqrt{\text{krem}}\,/\,\sqrt{\text{stol}}\,]]$ *cardinality*
      c. kolko $[\,\text{Num}_{[\text{CN}]}\,[\,n_{\text{M.NH-DIV}}\ \sqrt{\text{krem}}\,/\,\sqrt{\text{stol}}\,]]$ *cardinality*

A comparison of the structures in (12) reveals that the particular role of the count inflection, as distinct from that of the plural, is not to turn kinds into predicates of atomic individuals, as argued in Stepanov & Stateva (2018): both the count and the plural combine with predicates that are already individuated by DIV. The other alternative accounts of the count form – as plural number in conjunction with adnumerative agreement; as a number distinct from singular or plural; or as a singular number in conjunction with accusative case – are all compatible with these patterns.

2.2 ASSUMPTIONS ABOUT NOUNS, NOMINAL NUMBER, AND NUMERALS

I assume that bare count *n*Ps, i.e., *n*Ps headed by an *n* with the feature DIV, are predicates of atomic individuals and their sums, (13). The number feature on the Number head that combines with count *n*Ps either restricts this meaning, as is the case of SG in (14-a), or leaves it unchanged, as is the case of PL, which however has a presupposition that its argument is a weakly plural predicate, i.e., a predicate of atoms and their sums.[10] Thus, a singular-marked count *n*P denotes a predicate of atomic individuals, (15-a), while a plural-marked count *n*P denotes a predicate of atomic individuals and their sums, (15-b).[11]

(13) $[\![\,[_{nP}\,stol\,]\,]\!]\ =\ [\![\,[_{nP}\,chair\,]\,]\!]\ =\ \lambda x.\ x$ is a chair or chairs

(14) a. $[\![\,\text{SG}\,]\!]\ =\ \lambda P\,\lambda x.\ P(x)\ \&\ x$ is an atom
      b. $[\![\,\text{PL}\,]\!]\ =\ \lambda P\!:\,P$ is a predicate of atoms and their sums $\lambda x.\ P(x)$

(15) a. $[\![\,[_{NumP}\,\text{SG}\,stol\,]\,]\!]\ =\ [\![\,[_{NumP}\,\text{SG}\,chair\,]\,]\!]\ =\ \lambda x.\ x$ is a chair
      b. $[\![\,[_{NumP}\,\text{PL}\,stol\,]\,]\!]\ =\ [\![\,[_{NumP}\,\text{PL}\,chair\,]\,]\!]\ =\ \lambda x.\ x$ is a chair or chairs

I further assume that numerals denote numbers, (16), and so a measure expression is needed to link them to nominals (Hackl 2000, a.o.); a null MEAS, (17-a), combines with a predicate, *P*, syntactically a NumP, and with a number, *n*, syntactically a numeral, and returns a predicate of individuals whose cardinality is *n*, (17-b).

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[9]An alternative is to posit that only singular number may directly combine with grammatically mass nouns. (If plural were allowed to do so, *kremove* 'creams' would not need to be interpreted in terms of conventional packaging, contrary to fact.) The semantics of singular number would need to be compatible with both grammatically count and mass nouns. Since the analysis of mass nouns is beyond the scope of this paper, I do not consider this issue further; see e.g., Sauerland (2003), Chierchia (2021).

[10]PL may also be given a restrictive meaning, such that it creates predicates of sums only (Martí 2017). Since the exact semantics of PL is not the focus of the paper, I will leave this issue open.

[11]The morphosyntax and semantics of number continue to be debated. See Sauerland (2003), Bale et al. (2011), Bale & Khanjian (2014), Scontras (2013, 2022), Harbour (2014), Ionin & Matushansky (2006, 2018), Alexiadou (2019), Martí (2017), a.o. The semantics of count *n*Ps and SG assumed here are those of Martí (2017), though the morphosyntax of number in structures with numerals is different, as will become clear shortly. In any event, the core proposals in this paper are, to an extent, independent of the semantic details, and different assumptions about the semantics of count *n*Ps, and SG and PL number could be made with similar results.

(16) $[\![\,pet\,]\!] = [\![\,five\,]\!] = 5$

(17)   a. $[\![\,\textsc{Meas}\,]\!] = \lambda P\,\lambda n\,\lambda x.\ P(x)\ \&\ |x| = n$

      b. $[\![\,[\textsc{Meas}\,[_{NumP}\,\textsc{pl}\,stol\,]]\,]\!] = [\![\,[\textsc{Meas}\,[_{NumP}\,\textsc{pl}\,chair\,]]\,]\!] =$
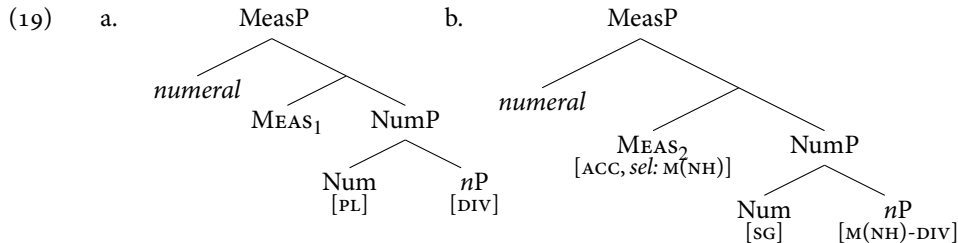 $= \lambda n\,\lambda x.\ x$ is a chair or chairs $\&\ |x| = n$

2.3 MEAS$_1$ AND MEAS$_2$

I propose that two measure expressions linking numerals and nouns are responsible for the noun-class split in Bulgarian numerically-quantified nominals. The idea has its origins in debates of whether numerals combine with semantically plural or singular predicates; in effect, both patterns are affirmed here, within the same language.

MEAS$_1$, as in (18-a) (= (17-a)) and (19-a), does not impose restrictions on the number or noun-class of its nominal argument. But the nominal number needs to be plural nevertheless, due to a grammatical constraint on measure structures, Schwarzschild (2006): the dimension of measurement – here cardinality – needs to be monotonic on the part-whole relation in the domain given by the noun phrase. The atomicity imposed by sg, as in (14-a), precludes the requisite part-whole structure. Thus, MEAS$_1$ is involved in numerically-quantified structures with plural nouns of all noun-classes.

MEAS$_2$, as in (18-b)-(19-b), combines only with singular-marked masculine nouns (or masculine non-human nouns, in the normative grammar). Its noun-class sensitivity is encoded through a morpho-syntactic selectional feature, [*sel:* m(nh)]. The number sensitivity, on the other hand, is semantic in nature. MEAS$_2$ introduces a pluralizing operator, the * of Link (1983); it combines with a predicate of atomic individuals, and returns a predicate of the atoms and their sums, thus satisfying the monotonicity constraint. MEAS$_2$ additionally hosts an accusative case feature, which it assigns to the (masculine singular) nouns; the accusative singular inflection is realized overtly as count-marking.

(18)   a. $[\![\,\textsc{Meas}_1\,]\!] = \lambda P\,\lambda n\,\lambda x.\ P(x)\ \&\ |x| = n$

      b. $[\![\,\textsc{Meas}_2\,]\!] = \lambda P\,\lambda n\,\lambda x.\ ^*P(x)\ \&\ |x| = n$

(19)   a.

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              MeasP                b.            MeasP
             /     \                            /     \
       numeral      \                     numeral      \
                   MEAS₁   NumP                       MEAS₂      NumP
                          /    \                   [ACC, sel: M(NH)]  /  \
                       Num     nP                               Num     nP
                      [PL]    [DIV]                            [SG]  [M(NH)-DIV]
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Numeral 'one' doesn't combine with nouns via MEAS$_2$: we know this, because masculine nouns in such cases, though singular, are not marked as count, (4-a). Semantically, 'one' and MEAS$_2$ are not incompatible: MEAS$_2$ weakly pluralizes the nominal predicate, (18-b), and because it retains the atoms, the resulting predicate may hold of individuals with the cardinality of 1. For the same reason, 'one' is semantically compatible with MEAS$_1$ and a plural-marked noun, yet this is also not what is empirically attested.[12] What then precludes 'one' from combining with either MEAS$_1$ or MEAS$_2$? The answer lies in a further structural detail, discussed in §2.4. Being excluded from both measure structures, 'one' combines with nominals as an attributive adjective, Pancheva (2022). In accord with its exceptional syntactic status, it alone among numerals has inflection for all genders and for plural number: *edin* 'one.m.sg', *edna* 'one.f.sg', *edno* 'one.n.sg', *edni* 'one.pl'.[13]
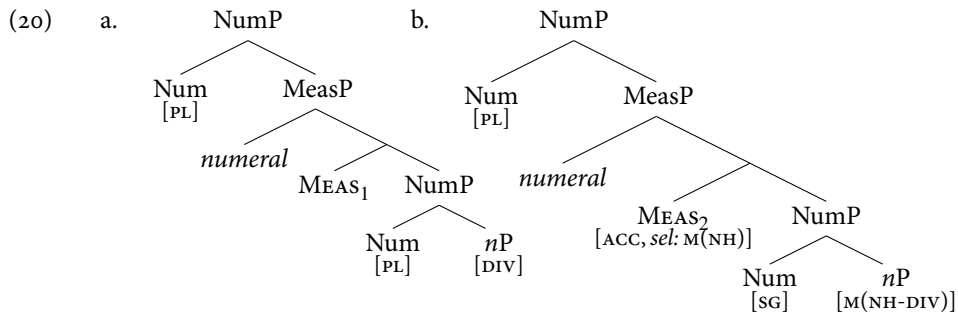
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[12]If pl is interpreted exclusively, as in Martí (2017), the incompatibility with 'one' would follow.

[13]The plural numeral can be used with pluralia tantum nouns. In addition to being a numeral, 'one', in all its forms, can be used as an indefinite determiner.

2.4 HIGH AND LOW NUMBER

Another detail of the proposal is that number is expressed more than once: below and above the numeral, as can be seen in (20-a) and (20-b). The idea that interpretable number is encoded higher than the numeral is found in Sauerland (2003), Scontras (2013), Ionin & Matushansky (2018), Martí (2017), but for these authors this high number is the sole interpretable number feature in the numerically-quantified nominal.

With MEAS₁, the values of the high and low number features match: they are both PL, displaying 'uniform concord', Norris (2017).[14] The higher number feature copies the value of the lower one, in the narrow syntax (rather than post-syntactically), and they are both interpreted.[15] The high number feature is realized on demonstratives and some other determiners that appear higher than the numeral.

(20)   a.   [NumP tree: Num [PL] / MeasP → numeral, MEAS₁ NumP → Num [PL], nP [DIV]]   b.   [NumP tree: Num [PL] / MeasP → numeral, MEAS₂ [ACC, *sel*: M(NH)] NumP → Num [SG], nP [M(NH-DIV)]]

With MEAS₂, there is a mismatch: the high number is PL, but the low number is SG. The plural external agreement facts seen in (7-a) follow from the presence of the high PL. The internal 'mixed concord' (Norris 2017) also follows: determiners higher than the numeral, such as the demonstrative in (8) are plural, while the noun is singular-marked (the count form). The high number feature is inherently valued PL. Valuation from the low number feature is not possible, as MEAS₂ splits the DP into two syntactic domains, disallowing concord between them. And in any event, a SG high feature, defined in terms of atomicity, would not be able to compose with the semantically plural nominal (e.g., 'five chairs'). Importantly, all number features – whether matching or not, inherently valued or valued via a syntactic agreement relation – are semantically interpreted.

We can come back now to the question from §2.3: why doesn't Bulgarian have a numeral 'one' that is not an adjective, and that combines with Meas₁ and Meas₂ like the rest of the numerals? The answer implicates the high PL feature: the PL presupposes that its argument is a predicate of atoms and their sums, (14-b), but after Meas₁ or Meas₂ combines with 'one', the result is a predicate of atomic individuals with a cardinality of 1. The presupposition of the PL feature is violated and the structure is ruled out.

2.5 CONCORD

MEAS₁ allows number and gender concord throughout the numerically-quantified DP. Yet in Bulgarian, gender is realized only on singular-marked expressions, thus only plural number is realized on demonstratives and attributive adjectives in structures with MEAS₁.

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[14] The adoption of the term 'uniform concord' does not imply an endorsement of Norris's (2017) analysis.

[15] Alternatively, the high number feature could be independent. If so, that number could in principle be SG. But a structure with high SG, a determiner numeral 'one' and a low PL number, e.g., * *tazi edna masi* 'this.F.SG one.F.SG table.PL' is not attested, although it is semantically well-formed. Possibly, such a structure is precluded simply because Bulgarian 'one' happens to be adjectival, and so it doesn't compose with *Meas₁* and thus, with plural nouns. Furthermore, if SG were to be defined not in terms of atomicity, as in (14-a), but in terms of minimality, cf. Scontras (2022), Martí (2017), structures with high SG, a numeral other than 'one' and a low PL would also be interpretable. I put this issue aside here, noting that it is potentially a source of cross-linguistic variation.

MEAS$_2$, on the other hand, disrupts concord throughout the numerically-quantified DP. It splits the DP into two domains of number agreement. Thus the need for independently valued high number arises. However, the question of why attributive adjectives, which are lower than the numeral, appear not to be singular-marked, (7-a), remains. Particularly relevant is a comparison with numeral systems such as those of Finnish, where nouns in combination with numerals are case-marked as partitive and singular, and where attributive adjectives below the numeral are marked partitive and singular, in concord with the partitive singular noun, while demonstratives above the numeral are plural (and nominative or accusative, reflecting the structural case context in which the numerically-quantified DP appears), see (21) from Brattico (2010).

(21) ne   kaksi pien-tä   auto-a   *Finnish*
      this.PL two   small-PART.SG car-PART.SG
      'these two small cars'

The apparent failure of number concord with the adjective in Bulgarian undermines the analysis of the count form as singular. I suggest, however, that the adjectives in Bulgarian do undergo number, gender and case concord with the noun, but singular masculine adjectival inflection in the context of case-marking is identical in its surface realization to plural inflection. Supporting evidence for this idea comes from vocatives, another environment where nouns may still have case inflection in Bulgarian. Notably, attributive adjectives appear in the so-called 'augmented' form (or 'adjectival stem extension', Harizanov & Gribanova 2014), (22-a), when they modify masculine singular nouns that are marked vocative (e.g., Tilkov et al. 1993b: 166, 173). The *-i* suffix of the augmented adjective, i.e., the exponence of masculine gender, singular number, and case is syncretic with the plural *-i* suffix that is expressed on adjectives in vocative and non-vocative contexts, see (22-b) (plural nouns do not express vocative case, and plural adjectives do not express gender). A second piece of evidence comes from adjectives modifying definite masculine singular nouns in nominative and accusative case environments, i.e., the syntactic positions of subjects vs. direct objects and objects of prepositions. In such cases it is the adjective that hosts the case and definiteness morpheme, and importantly, the adjective is also augmented with the *-i* suffix, (22-c).

(22)   a.   star-i   prijatel-ju
            old-AUG friend.M.H-VOC.SG
            'old (male) friend (vocative)'
       b.   star-i   prijatel-i
            old-PL friend.PL
            'old friends (vocative/non-vocative)'
       c.   star-i-jat   / star-i-ja   prijatel
            old-AUG-SG.DEF.NOM   old-AUG-SG.DEF.ACC friend.M.H.SG
            'the old friend (nominative/accusative) '

Thus, in all other environments where morphological case is realized in Bulgarian – in vocatives, (22-a), and in subject and object positions, (22-c) – adjectives modifying masculine singular nouns, and only such nouns, have the *-i* augment. This supports the proposal that attributive adjectives modifying count-marked nouns are in a context where case is assigned and the nouns themselves are singular-marked. The *-i* suffix on the adjectives is the augment, not the plural. There is no failure of number and gender concord in the lower domain of MEAS$_2$.

A potential challenge for analyzing the count form as accusative singular comes from the fact that the accusative case is realized on the noun itself, even in the presence of attributive adjectives, (8), whereas in definite nominative and accusative structures, it is only the first adjective that expresses case and not the noun, (22-c). However, note that it is the nominals in subject and object positions that stand apart in this respect;

vocatives behave just like DPs with count-marked nouns: the noun is case-marked, while the adjective appears with just the -*i* augment, cf. (8) and (22-a). The reason why morphological case is realized differently in (22-c) is that the DPs are definite. The exponence of the definite feature is a clitic, and the case feature is realized according to the placement of the clitic (e.g., Tilkov et al. 1993b: 171).

3 ARGUMENTS THAT THE COUNT FORM IS ACCUSATIVE SINGULAR

3.1 DEFINITE MASCULINE SINGULAR NOUNS VS. COUNT-MARKED NOUNS

Bulgarian marks morphological (i.e., overt) case on full pronouns (nominative and accusative) and on clitics (nominative, accusative, and dative). Apart from vocative case (which is available for masculine and feminine nouns), morphological case has been lost on nouns, with possibly one key exception: in formal registers, definite masculine singular nouns vary in form depending on their grammatical position. Example (23-a) shows the form of masculine singular *stol* 'chair' as a subject and examples (23-b)-(23-c) show the same noun as a direct object and as the object of a preposition. This syntactically-conditioned variation could be attributed to a distinction between morphological nominative and accusative case, and in the case of pronouns, also seen in (23), it is so attributed.[16]

(23)   a.   Stol-ăt   / toj   se   sčupi
             chair.M.NH-NOM.SG.DEF   PRON.M.NOM.SG REFL break-PAST.3SG
             'The chair / it broke.'
       b.   Sčupiha   stol-a   / go   /
             break-PAST.3PL chair.M.NH-ACC.SG.DEF   CLITIC.M.ACC.SG
             nego
             PRON.M.ACC.SG
             'They broke the chair / it .'
       c.   na   stol-a   / nego
             on/of chair.M.NH-ACC.SG.DEF   PRON.M.ACC.SG
             'on/of the chair / it.'

Feminine and neuter nouns do not show such a positionally-conditioned distinction, and neither do masculine plural nouns. The form that masculine plural nouns take as subject, direct object, and object of preposition, is invariant, *stol-ove-te* chair.M.NH-PL-DEF.

Masculine human nouns behave the same as masculine non-human nouns: the singular ones exhibit the nominative/accusative distinction (e.g. *student-ăt* 'student.M.H-NOM.SG.DEF' vs. *student-a* 'student.M.H-ACC.SG.DEF'), but the plural ones don't (*student-i-te* 'student.M.H-PL-DEF'). So the only nouns to have a nominative and accusative form are masculine singular nouns (when definite), and the only nouns to have a count form are also masculine singular nouns. Moreover, the accusative suffix and the count suffix are phonologically the same: -*a*, or its phonologically-conditioned variant -*ja*. This argument is offered in Pancheva (2018) as evidence that the count form is accusative singular.

Next I offer two additional pieces of evidence in support of the accusative singular analysis of the count form. These arguments refute the idea that the count suffix and the accusative singular suffix are merely homophonous.

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[16] Although the pronominal distinction is readily recognized as due to case in traditional grammars and theoretical work, the same recognition is typically not extended to the 'lexical' nominals; rather the -*ăt*/-*a* in (23) and -*jăt*/-*ja* in (22-c) are analyzed as the full form vs. the short form of the definite article. On this view the count inflection and the short form of the definite article are grammatically distinct and merely homophonous.

	SG	PL	COUNT	DEF. ACC. SG	
stress change in plural	kon	kon-è	kòn-ja	kòn-ja	'horse'
	kral	kral-è	kràl-ja	kràl-ja	'king'
	stol	stol-òve	stòl-a	stòl-a	'chair'
	bog	bog-ovè	bòg-a	bòg-a	'god'
stem vowel deletion in plural	orel	orl-i	orel-a	orel-a	'eagle'
	oven	ovn-i	oven-a	oven-a	'ram'
	cikăl	cikl-i	cikăl-a	cikăl-a	'cycle'
	teatăr	teatr-i	teatăr-a	teatăr-a	'theater'
	vjatăr	vetr-ove	vjatăr-a	vjatăr-a	'wind'
stem suffix deletion in plural	seljan-in	seljan-i	seljan-in-a	seljan-in-a	'villager'
	boljar-in	boljar-i	boljar-in-a	boljar-in-a	'boyar'
	bălgar-in	bălgar-i	bălgar-in-a	bălgar-in-a	'Bulgarian'
	gospod-in	gospod-a	gospod-in-a	gospod-in-a	'mister'

Table 1: Count stem = accusative singular stem = nominative singular stem ≠ plural stem

3.2 STEM IDENTITY

First, the count stem and the (definite) accusative singular stem are always identical, and are always the same as the (indefinite) singular stem but may differ from the plural stem. The stem regularity of the count form and the possible irregularity of the plural has been noted in traditional grammars and by e.g., Ionin & Matushansky (2018), Franks (2018), Pancheva (2018). The new observation here is that the same regularity holds for the accusative singular form. The patterns can be seen in Table 1. Three types of stem changes may be observed between the singular and the plural form: stress shift to the plural suffix, vowel deletion in the plural stem, and deletion of the stem suffix *-in*, a singulative, before the plural suffix. None of these changes affect the count form nor the accusative singular form, whose stems remain identical to the singular stem.

3.2.1 STRESS CHANGE IN PLURAL

In the first section of Table 1 we have several examples of plural suffixes which shift the stress away from the masculine stem. (Stress is indicated by a grave accent mark, as customary in Bulgarian grammars.) No stress shift is observed when the count and accusative singular suffixes are added to the same stems. These facts are consistent with an analysis of the count suffix as accusative singular: this single accusative singular suffix does not attract the stress, unlike the plural suffixes. Yet if considered on their own, the stress shift facts could be set aside as inconclusive. There could be two featurally distinct but homophonous count and accusative singular suffixes, neither of which has the marked property of attracting stress, which only plural suffixes have. Not affecting a change need not be a unifying property. But the other two types of stem changes, discussed below, are harder to dismiss as evidence against the homophony account.

3.2.2 STEM VOWEL DELETION IN PLURAL

The 'vowel-zero' alternations in stems ('stem vowel deletions') seen in Table 1 can be explained through an appeal to two abstract vowels, front and back yers, which were historically attested, and which may be assumed to still be present in the lexical entries of roots and suffixes. These abstract vowels are vocalized as /ɛ/ (written '*e*') or /ɤ/ (written '*ă*') in strong positions, and deleted in weak positions. Weak positions are at the end of words, or in a syllable preceding a syllable with a non-yer vowel; other positions are strong. See Lightner (1965) for an early formal analysis and Scheer (2011) for a more

recent overview of Slavic yers, and Scatton (1975), Mirčev (1978): 122-123, Hristova (1995), Bojadžiev et al. (1998): 256-264 for yers in Bulgarian specifically.[17]

The masculine singular suffix, i.e., the exponence of SG number in the context of M gender (noun class, including gender and humanness, is assumed here to be introduced by the categorizer n), is a yer, ъ. Since it is in a word-final position, it is not phonetically realized. However, its presence in the underlying representation has the effect of making the preceding syllable a strong position for any yers, conditioning their vocalization.

In some of the forms in Table 1, the nominal stem has an underlying front yer ь, e.g., *ov-ьn* 'ram', where -ьn is the exponence of the categorizing head n.[18] This yer is phonetically realized as /ɛ/ '*e*' in strong positions, and deleted in weak positions. In the context of singular number ъ, ь is in a strong position and is vocalized, (24-a), and in the context of plural number, a non-yer vowel, it is in a weak position and is deleted, (24-b).

(24)   a. $[[\sqrt{ov\text{-}}\ [_{n_{[M]}}\text{-}ьn]]\ \text{SG}] \rightarrow$ ov-ьn-ъ $\rightarrow$ ov-èn-Ø $\rightarrow$ ovèn

       b. $[[\sqrt{ov\text{-}}\ [_{n_{[M]}}\text{-}ьn]]\ \text{PL}] \rightarrow$ ov-ьn-ì $\rightarrow$ ov-Øn-ì $\rightarrow$ ovnì

Now, the argument for the identity of the count and accusative singular inflection is as follows. If the count suffix was added to the nominalized root directly, as in (25-a), the predicted form would be the unattested **ovn-a*, with a stem yer deletion, in parallel to *ovn-ì* in (24-b). Instead, the correct form is predicted by the structure in (25-b). The count suffix is added not to a nominal stem unmarked for number, but to a singular-marked stem. It may still be possible to maintain that this structure exists as separate and distinct from the structure of the accusative singular in (25-c), though the two are realized phonologically the same. Yet, given that the count suffix attaches to singular number, it may not be given an analysis as a special plural, which is how it has traditionally been analyzed, nor as an adnumerative number marker distinct from singular or plural (Ionin & Matushansky 2018), or a countability marker (Stepanov & Stateva 2018). The most straightforward account is that the count suffix spells out accusative case in the context of singular number: i.e., the count form is the accusative singular form.

(25)   a. $[[\sqrt{ov\text{-}}\ [_{n_{[M]}}\text{-}ьn]]\ \text{CN}]$ $\rightarrow$ ov-ьn-a $\rightarrow$ ov-Øn-a $\rightarrow$ ** ovna

       b. $[[[\sqrt{ov\text{-}}\ [_{n_{[M]}}\text{-}ьn]]\ \text{SG}]\ \text{CN}] \rightarrow$ ov-ьn-ъ-a $\rightarrow$ ov-èn-Ø-a $\rightarrow$ ovèna

       c. $[[[\sqrt{ov\text{-}}\ [_{n_{[M]}}\text{-}ьn]]\ \text{SG}]\ \text{ACC}] \rightarrow$ ov-ьn-ъ-a $\rightarrow$ ov-èn-Ø-a $\rightarrow$ ovèna

The same reasoning applies to the 'vowel-zero' alternation seen with *teàtăr* 'theater', except that the root yer is the back yer ъ.[19] In strong positions it is vocalized as /ɤ/ '*ǎ*'; this happens in the nominative singular, the count, and the accusative singular forms, as seen in (26). The proposal advanced here unifies these environments: they all share the singular suffix. Combination with singular-marked stems is unexpected on the analysis of the count suffix as a plural marker, an adnumerative number marker or a countability marker.

(26)   a. $[[\sqrt{teatъr}\ n_{[M]}]\ \text{CN}]$ $\rightarrow$ teàtъr-a $\rightarrow$ teàtØr-a $\rightarrow$ ** teàtra

       b. $[[[\sqrt{teatъr}\ n_{[M]}]\ \text{SG}]\ \text{CN}] \rightarrow$ teàtъr-ъ-a $\rightarrow$ teàtъr-Ø-a $\rightarrow$ teàtăra

       c. $[[[\sqrt{teatъr}\ n_{[M]}]\ \text{SG}]\ \text{ACC}] \rightarrow$ teàtъr-ъ-a $\rightarrow$ teàtъr-Ø-a $\rightarrow$ teàtăra

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[17] The treatment of yers adopted here helps illustrate the main argument about the count inflection particularly well, but it is not meant as an endorsement over alternative analyses of the phenomenon of 'vowel-zero' alternations. See Gouskova (2012), Becker & Gouskova (2016), Scheer (2019) a.o., for recent theoretical approaches.

[18] Bojadžiev et al. (1998: 260–261) has a list of (unproductive) nominal suffixes that contain a front yer. Some of them are likely to be conceptualized by speakers as being part of the root (e.g., *or-ьl* 'eagle'), but this does not affect the argument.

[19] In some cases, the alternating vowel is not part of the root, but of a nominalizing suffix, e.g., $\sqrt{vjat\text{-}ăr}$ 'wind', see Bojadžiev et al. (1998: 258).

3.2.3 STEM SUFFIX DELETION IN PLURAL

We turn next to the distribution of the *-in* suffix. It is a singulative suffix, whose output is a masculine human noun, and it is in complementary distribution with plural suffixes Manova (2011: 153–155), a.o., see (27).[20] There are at least two plural suffixes that may appear with stems that also combine with the singulative suffix, i.e., *-i* and *-à*, and in each case the singulative suffix may not be present (e.g., **bălgar-in-i*, **gospod-in-à*). This suggests that the traditional account of the count form as a special type of plural is not correct: if the count suffix were a type of plural, we would not expect it to be added to the singulative suffix (just like plural *-i* and *-à* are not), yet the count form includes the singulative suffix, see (28-a)-(28-b). In this respect the count form is identical to the (definite) accusative singular form, (28-c), and both of their stems are the same as the stem of the (indefinite) singular form, i.e., the stems include singulative *-in*. This is another piece of evidence that the count suffix spells out accusative case in the context of singular number, i.e., the phonological identity of the count and accusative singular forms is not due to accidental homophony of the inflectional affixes.

(27) a. $[[\sqrt{\text{bălgar}} \quad n_{[M]}] \quad \text{SG}] \rightarrow$ bălgar-in
      b. $[[\sqrt{\text{bălgar}} \quad n_{[M]}] \quad \text{PL}] \rightarrow$ bălgar-i

(28) a. $[[\sqrt{\text{bălgar}} \quad n_{[M]}] \quad \text{CN}] \qquad \rightarrow$ * bălgar-a
      b. $[[[\sqrt{\text{bălgar}} \quad n_{[M]}] \quad \text{SG}] \quad \text{CN}] \rightarrow$ bălgar-in-a
      c. $[[[\sqrt{\text{bălgar}} \quad n_{[M]}] \quad \text{SG}] \quad \text{ACC}] \rightarrow$ bălgar-in-a

3.2.4 SUMMARY: STEM IDENTITY

We saw three different pieces of evidence that the stem to which the count suffix *-a* attaches is the same as the stem of the *-a* suffix of definite masculine singular nouns, whose nominal phrases are complements of verbs and prepositions. Two of the arguments – the 'vowel-zero' alternations and the distribution of the singulative suffix – directly point to the fact that the count and the accusative *-a* suffixes attach to stems marked for singular number, unlike the plural suffixes, which attach to stems not already marked for number. The third argument – the stress shift facts – also shows that the count and the accusative *-a* suffixes attach to the same stem, and that stem is identical to the singular-marked stem in the nominative. Taken together, the three pieces of evidence point to a uniform treatment of *-a* as an accusative inflection in the context of singular-marked masculine nouns.

3.3 PARADIGM GAPS

The second new argument, in addition to stem identity, in support of the proposal that the count inflection is the accusative singular inflection comes from paradigm gaps. Nouns that do not have a count form also do not have an accusative singular form that is distinct from the nominative singular form. Instead, the plural form is used with numerals, and the nominative singular form is used in definite complements to verbs and prepositions.

   The masculine human nouns in Table 2 are atypical because their singular form doesn't end in a consonant (or rather, in an yer in weak position, which is subsequently deleted). For some of them, the masculine singular inflection is *-a/-ja* (with or without stress), for others it is *-o* (as typical of feminine and neuter nouns, respectively). Given the evidence seen so far that the count affix is the exponence of accusative case in the context of singular number, the unattested count and accusative singular forms would have the overt inflection **-a-a/*-ja-ja* or **-o-a*. Most likely these are ruled out for phonological

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[20]The term 'singulative' is commonly used for morphemes with individuating semantics, which are compatible with plural suffixes (e.g., Mathieu 2012). The singulative *-in* suffix is unlike those, and is instead akin to singular number morphemes in e.g., Kipsigis (Kouneli 2021).

SG	PL	COUNT	DEF. ACC. SG	
păt	păt-i	—	—	'time' (measure)
bašt-à	bašt-ì	—	—	'father'
vojvòd-a	vojvòd-i	—	—	'military leader'
sădi-jà	sădi-ì	—	—	'judge'
handžì-ja	handžì-i	—	—	'inn keeper'
čìč-o	čìč-ovci	—	—	'uncle'

Table 2: No count form ⇔ no accusative singular form

reasons. The fact that the gap obtains both for the count and the accusative singular form supports the analysis of the two as having the same inflectional features, exponed by the same suffix. Note that if the count suffix were a special plural, as traditional accounts would have it, the count -*a*/-*ja* suffix would not be added to, but would instead replace the masculine singular -*a*/-*ja* or -*o* suffix, avoiding the vowel-vowel sequence, and predicting acceptable count forms, contrary to what is the case. The gap would also be predicted to obtain only for the accusative singular, again contrary to the observed facts.

The inflectional gap for the measure word *păt* 'time' appears to not be phonologically-based but purely accidental. Its homophone *păt* 'road' does have both an accusative singular and a count form, as seen in (29-b), (29-c). Other measure words of similar phonological shape, e.g., *fut* 'foot', *vat* 'watt', *volt* 'volt' all have the two forms as well. A novel measure word *băt* would productively inflect with the count and accusative singular suffix: e.g., *dva băt-a* 'two băts'.

(29) a. pet păt-i   b. po păt-ja   c. pet păt-ja
         five time-PL   on road-ACC.SG.DEF   five road-CN
         'five times'   'on the road'   'five roads'

If the count and the accusative singular inflections were independent (though homophonous), for both to be inapplicable to *păt* 'time' would be too much of an accident. Their joint absence is expected, on the other hand, if the count suffix is the exponence of accusative case in the context of singular number.

3.4 SUMMARY: ARGUMENTS THAT THE COUNT FORM IS ACCUSATIVE SINGULAR

The count suffix -*a* is phonologically the same as the -*a* suffix that masculine singular nouns have when their nominal phrases are arguments of verbs and prepositions, i.e., in accusative case environments. The possibility that this is just accidental homophony is undermined by the following arguments. First, only masculine nouns have a count form and an accusative form. Second, the stems to which the two -*a* suffixes attach are the same, even when the corresponding plural forms combine with different stems. This is seen in the case of stress shifts, 'vowel-zero' alternations, and distribution with respect to the singulative -*in* suffix. Third, the paradigm gaps of the two forms coincide: when a masculine noun lacks a count form, it also lacks an accusative singular form that is distinct from the nominative singular form. Taken together, these arguments suggest that Bulgarian masculine nouns express accusative case and singular number in structures with numerical quantifiers.

3.5 A POTENTIAL CHALLENGE FOR THE ANALYSIS

Some nouns have different stress in their count and definite accusative singular forms. The count form has the same stress as the indefinite singular form, but the stress shifts in

SG	COUNT	DEF. ACC. SG	DEF. NOM. SG	
sìn	sìn-a	sin-à	sin-ất	'son'
kràk	kràk-a	krak-à	krak-ất	'leg'
nòs	nòs-a	nos-à	nos-ất	'nose'
vắlk	vắlk-a	vắlk-à	vắlk-àt	'wolf'
gràd	gràd-a	grad-à	grad-àt	'city'

Table 3: Stress differences between the count and the accusative singular form

the definite accusative singular form. At first, this appears to present a problem for the proposal that the count and the accusative singular inflection are formally identical.

However, this is only an apparent counterexample. There is independent evidence that the definite feature is responsible for the stress shift: the shift occurs also in the case of (i) the definite nominative (masculine singular) form, as can be seen in Table 3; (ii) feminine nouns ending in a consonant, e.g., *ràdost* 'joy' – *radosttà* 'the joy', *kàl* 'mud' – *kaltà* 'the mud', *rèč* 'speech' – *rečtà*, 'the speech'; and (iii) numerals 'four' and higher, e.g., *čètiri* 'four' – *četiritè* 'the four', *pèt* 'five' – *pettè* 'the five'. See Tilkov et al. (1993b: 121–122, 185), Tilkov et al. (1993a: 166–167, 170), Bojadžiev et al. (1998:180–181, 186) for discussion; a formal phonological account of the stress shift is beyond the goals of this paper.

Thus we can maintain that the same suffix is involved in the count form and the accusative singular form in Table 3. The difference in stress is due to the fact that the latter also spells out a definite feature.

4 BROADER SIGNIFICANCE

The analysis of the count form as accusative and singular has implications beyond the grammar of Bulgarian. It provides another test case for syntactic analyses of concord and case-licensing in structures with numerals and for semantic analyses of the meaning of numerals and of number inflection.

On the account proposed here, the Bulgarian numerically-quantified noun phrases with masculine nouns turn out to be essentially the same, including with respect to concord, as those of Finnish, where all nouns in combination with numerals are case-marked and singular. The singular number on nouns in such structures raises questions for the uniform treatment of the semantics of numerals cross-linguistically, given that in other non-classifier languages plural marking is obligatory. It has sometimes been suggested that singular-marked nouns, in at least some of the relevant languages (e.g., Turkish, Western Armenian), are semantically number neutral (i.e., weakly plural), denoting predicates of atomic individuals and their sums (see Bale et al. 2011, Bale & Khanjian 2014). This however, cannot be the case for Fininish (and has also been disputed for Turkish, see Sağ 2021) and so the question remains as to why Finnish differs from English in not allowing plural-marked nouns to combine with numerals. One alternative approach posits that the variation between singular number, as in Finnish, vs. plural number, as in English, is due to the absence vs. presence of number agreement, a purely syntactic parametric variation (see Ionin & Matushansky 2018, Alexiadou 2019). Bulgarian presents a complication to such a view: plural inflection on feminine and neuter nouns would need to manifest one type of agreement, while singular inflection on masculine nouns would need to realize a different type of agreement, with precedence for the (realization of the) latter agreement over the former. Such a system would be further complicated by the fact that it is the same numerals that need to trigger singular agreement with masculine nouns but plural agreement with feminine and neuter nouns. Alternatives could be devised (e.g., agreement with numeral in one case vs. agreement with a higher number feature), at the cost of further complication, and while

still maintaining that number realized on nouns is not interpretable. Instead, I would suggest that the Bulgarian facts call into question the analysis of variation in singular vs. plural number marking in terms of uninterpretable syntactic agreement. The proposal advanced here, appealing to two different null measure expressions linking numerals and nouns, provides a simpler alternative, not just for Bulgarian, but also cross-linguistically, and allows for morphological number on nouns to be semantically interpreted.

The analysis of the Bulgarian count form as accusative and singular also has implications for the grammatical status of nominal inflection in Russian numerically-quantified noun phrases, given the shared historical origins of the two Slavic systems. Specifically, the present analysis lends support to the analysis of 'paucal' noun phrases in Russian – those with paucal numerals 'two', 'three' and 'four' – in terms of genitive case and singular number, see (30), as opposed to other, extensively debated alternatives. One of the arguments against analyzing the Russian nouns combining with paucal numerals as singular-marked is that such an analysis would need to explain the lack of number concord with the attributive adjective. Given that it was demonstrated here that in Bulgarian the attributive adjectives are singular-marked, rather than plural-marked, despite appearances, the strength of the argument against singular number for Russian nouns is diminished (though a full analysis still awaits).

(30)   èti   tri   nov-yx   stol-a   *Russian*
        this.PL   three new-GEN.PL   table.M.-GEN.SG
        'these three new tables'

Finally, the analysis also places Bulgarian among an understudied group of languages, where singular vs. plural marking on nouns in numerically-quantified noun phrases varies by noun class (e.g., Miya (Chadic), see Ionin & Matushansky 2018: 94–98). Such languages posit particular challenges for the syntactic and semantic analysis of number inflection. Understanding the Bulgarian system better helps illuminate the phenomenon of differential number marking.

The main claims of the account for Bulgarian extend to the Finnish and Russian numerically-quantified nominals. The distributed representation of number, and the interpretability of singular number on nouns holds in these languages as well. In Finnish, however, there is a single null measure expression linking numerals and nouns, resulting in no variation as to noun class or type of numeral, and no issues arise for the realization of number concord. In Russian, the two covert measure expressions are distinguished both with respect to their nominal argument, singular or plural, and with respect to their numeral argument, paucal or not.

Overall, the broader conclusions are as follows: (i) variation in number marking in combination with numerals is not simply a case of presence vs. absence of uninterpretable syntactic agreement; rather there is genuine interpretative variation in the kind of predicates that numerals, or rather, the null measure expressions linking numerals and nouns, can combine with, with consequences for the typology of numeral systems; (ii) mismatches in number between attributive adjectives and nouns are not necessarily evidence of non-local agreement.

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ABBREVIATIONS

ACC	accusative	NH	non-human
AUG	augmented	NOM	nominative
CN	count	N	neuter
DEF	definite	PL	plural
F	feminine	REFL	reflexive
H	human	SG	singular
M	masculine	VOC	vocative

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