The Bulgarian 'count' form is semantically singular

Roumyana Pancheva, USC

Number-marking patterns. There is cross-linguistic variation in number marking on nouns in direct (classifier-less) combination with numerals. In English, nouns in such environments must be marked plural (*two cats* vs. **two cat*). In other languages, plural nouns are optional, e.g., Western Armenian *yergu dəgha-**ner*** 'two boy-PL' vs. *yergu dəgha* 'two boy'. In still other languages, plural nouns are prohibited, e.g., Turkish **iki kitap-**lar*** 'two book-PL' vs. *iki kitap* 'two book'.

'The Strong Thesis'. Bale at al (2011) point out that the bare nouns in the above examples: English *cat,* Western Armenian *dəgha* 'boy' and Turkish *kitap* 'book', are not interpreted the same way. *Cat* is semantically singular, i.e., it denotes a predicate of singular (atomic) individuals; *dəgha* 'boy' and *kitap* 'book' are semantically number neutral, i.e., they denote predicates of singular and plural individuals (sometimes called 'weak plurals'), which is the interpretation that English plural-marked nouns have. Thus, in all three languages numerals combine with a noun that is semantically plural. In fact, Bale at al (2011) put forth a proposal that numerals universally resist composing with semantically singular nouns. They attribute this restriction to a general semantic requirement that nominal modification must be restrictive: what they call 'the Strong Thesis'. Assuming that morphological number on nouns is semantically interpreted, in order for the numeral *two* to be a restrictive modifier, it needs to combine with the semantically *plural* predicate *cats* rather than the semantically *singular* predicate *cat*. (For concreteness, the interpretation of the singular and plural number-marked nouns is illustrated in (1), in set notation, following the representation used in Bale et al (2011).) Numerals need to combine with predicates of *plural* individuals, since the result of numeral modification is a predicate of pluralities with a certain cardinality, as determined by the specific numeral. For instance, *two cats* is true of pluralities of cats whose cardinality is 2 (see (2)).

(1) a. $[\![\text{cat-SG}]\!] = \{a, b, c, \ldots\}$ b. $[\![\text{cat-PL}]\!] = \{a, b, c, \ldots, ab, bc, ac, \ldots, abc, \ldots\}$
(2) a. $[\![\text{two}]\!] = \lambda P_{\text{PLURAL}} \lambda x . P(x) \ \& \ |x| = 2$ b. $[\![\text{two}]\!] ([\![\text{cat-s}]\!]) = \lambda x . \text{cats}(x) \ \& \ |x| = 2$

Bale et al (2011)'s analysis contrasts with that of Ionin and Matushansky (2006), who argue that numerals universally combine with singular-marked nouns. On this alternative approach *two* is a *non*-restrictive modifier as it takes a predicate of atomic individuals *P* and returns a predicate of plural individuals that can be partitioned into two non-overlapping parts, each part consisting of an atomic individual (as in (3)). It is important that *P* be a predicate of singularities, otherwise *two cats* could mean a plurality of cats with two parts, each part being of unspecified cardinality.

(3) $[\![\text{two}]\!] = \lambda P_{\text{SINGULAR}} \lambda x \ \exists S \ [\Pi(S)(x) \ \& \ |S| = 2 \ \& \ \forall s \ [s \in S \rightarrow P(s)]]$
 A set *S* is a partition Π of a plural *x* iff the members of *S* exhaust all non-overlapping parts of *x*

The Strong Thesis is a notable contender for a semantic universal. It significantly restricts the space of possible grammars for cardinality measurement. It also aims to cover both numeral (*two cats*) and adjectival modification (*black cats*), unifying these two categories of attributive modifiers. Yet, there is evidence from Bulgarian that numerals may combine with semantically singular nouns.

The Bulgarian 'count' form. Bulgarian masculine nouns make a three-way distinction in number: they have a so-called 'count' form, in addition to a singular and a plural form, see (4). Feminine and neuter nouns do not have a count form. The count inflection is completely regular: it involves the *-a* suffix, which can predictably surface as *-ja*. The morphological distinction is fully productive.

(4) a. kon 'horse-SG'   koné   'horse-PL'   kónja   'horse-COUNT'
  b. mâž 'man-SG'   mâžé   'man-PL'   mấža   'man-COUNT'

The count form cannot be used on its own (see (5)); it only appears with numerals and cardinality determiners like *how many, that many* and *several*, but not with determiners such as *all, which,* etc. In the colloquial language the plural form can also be used with numerals and cardinality determiners, with variation occurring even within the same sentence, (6) (Hristozova 2012: 307). (Current normative grammars prohibit the count form with human-denoting masculine nouns, as in (4b); this can be shown to be due to a change in progress – as the variation in (6) also supports – with the count form losing to the plural in cardinality contexts.) Traditional grammars describe the

count form as a special *plural* form of the noun that agrees with numerals and quantity expressions (e.g., Pašov 2011: 69, Hristozova 2012: 301).

(5) V stajata ima { prizrak / prizraci / *prizraka }
in the-room there-is ghost-**SG** ghost-**PL** ghost-**COUNT**
'There's {a ghost /ghosts} in the room.'

(6) Alpinistât Džordan e pokoril *sedemte vârhove* na *sedemte kontinenta.*
the-alpinist Jordan is conquered the-seven summit-**PL** of the-seven continent-**COUNT**
'The mountain climber Jordan conquered the seven summits of the seven continents.'

Analysis. There are only two interpretable number features on nouns: singular and plural. As in English, the singular morpheme is null, while the plural morpheme has an overt realization. The singular-marked form is semantically singular, denoting a predicate of atomic individuals; the plural-marked form is semantically a weak plural, denoting a predicate of singular and plural individuals; see (7)-(8). The difference from English lies with the count form in (9). The claim is that the count morphology spells out singular number and objective (i.e., non-nominative) case. Just as it happens in e.g., Russian numerical structures (Pesetsky 2013, a.o.), the noun in Bulgarian is assigned case, except here, the case is objective rather than genitive, as is the case in Russian.

(7) *prizrak* 'ghost': [*i*Number: singular] $[\![\text{prizrak-SG}]\!] = \{a, b, c, \ldots\}$
(8) *prizraci* 'ghost': [*i*Number: plural] $[\![\text{prizrak-PL}]\!] = \{a, b, c, \ldots, ab, bc, ac, \ldots, abc, \ldots\}$
(9) *prizrak**a*** 'ghost': [***i*Number: singular, *u*Case: objective**] $[\![\text{prizrak-SG}]\!] = \{a, b, c, \ldots\}$

As evidence that the count form spells out singular number and objective case, consider the following. Bulgarian nouns do not mark case overtly, except for *singular masculine* nouns. These are the only nouns which distinguish between a nominative and an objective form, see (10). The singular objective morpheme is *-a* (predictably surfacing as *-ja*). What would be an accidental syncretism on the view of the count form as plural, is derived from the identity of formal features.

(10) a. { Konjat / mâžât / prizrakât } padna
horse-the-SG.NOM man-the-SG.NOM ghost-the-SG.NOM fall-3sg.past
'{The horse / the man / the ghost} fell.'

b. Vidjah { kon**ja** / mâž**a** / prizrak**a** }
see-1sg.past horse-the-**SG.OBJ** man-the-**SG.OBJ** ghost-the-**SG.OBJ**
'I saw the horse / the man / the ghost.'

The singular form in (7) cannot be used with numerals other than 'one', and the count form in (9) cannot be used with the numeral 'one'. A question arises whether the noun has an objective case feature in the presence of 'one'. From a comparative perspective with Russian, the answer would be that no case is assigned to the noun by the numeral 'one'. We adopt this for Bulgarian as well. This featural difference alone derives the different morphological realization of the two forms, as already reflected in (7)-(9). But there is also a semantic difference, at the level of the whole nominal phrase. After the numeral 'one' and the NP are combined, the resulting DP is a singular indefinite; when the numeral is 'two' or higher, the DP is a plural indefinite. (The D head introduces an existential quantifier over individuals, as standardly assumed.) To capture this distinction, we posit a second number feature, on the D head. Both number features are interpretable, at the relevant level of structure. The singular form of masculine nouns needs to appear under a D head marked singular, as in (11), whereas the count form only appears under a D head marked plural, as in (12). (The third form, the plural, only combines with D heads marked plural.)

(11) edin prizrak 'one ghost-**SG**':   [DP D: [*i*Num: **SG**]['one' [NP N: [*i*Num: **SG**]]]]
(12) dva prizrak**a** 'two ghost-**COUNT**':   [DP D: [*i*Num: **PL**]['two' [NP N: [*i*Num:**SG**; *u*Case: **OBJ**]]]]

Larger significance. The Strong Thesis is not correct. Numerals may combine with semantically singular nouns. This is a welcome result, even though it refutes a putative semantic universal, because it is a mistake to treat numerals as attributive modifiers. They participate in pseudo-partitive structures (Schwarzschild 2006, Solt 2015, Rett 2018) which are both syntactically and semantically distinct from attributive modification.

References

Bale, Alan, Michaël Gagnon, Hrayr Khanjian. 2011. Cross-linguistic representations of numerals and number marking. Proceedings of SALT 20, 582–598.

Hristozova, Galja. 2012. The count form of masculine nouns – norms, rules, violations. *Bulgarian Language and Literature* Volume 54, Number 4, 300-309. [Original: Христозова, Галя. 2012. Бройната форма на съществителните имена от мъжки род – норми, правила, нарушения. Български език и литература, година LIV, книжка 4, 300-309.]

Ionin, Tania and Ora Matushansky. 2006. The composition of complex cardinals. *Journal of Semantics* 23(4), 315–360.

Pašov, Petâr. 2011. Bulgarian Grammar. Hermes Press. [Original: Пашов, Петър. 2011. Българска Граматика. Издателска къща „Хермес".]

Pesetsky, David. 2013. *Russian case morphology and the syntactic categories.* MIT Press.

Rett, Jessica. 2018. The semantics of *many, much, few,* and *little. Language and Linguistics Compass.* 1-18.

Schwarzschild, Roger. 2006. The role of dimensions in the syntax of noun phrases. *Syntax* 9. 67-110.

Solt, Stephanie. 2015. Q-Adjectives and the semantics of quantity. *Journal of Semantics*, 32: 221–273.