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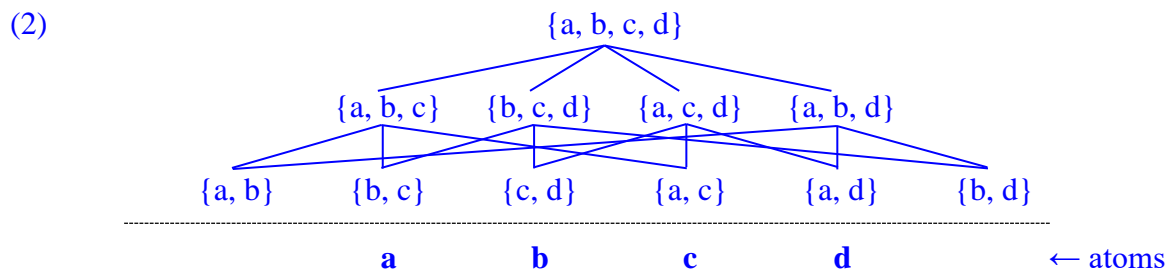
**MASS AND PLURAL: ON THE RUSSIAN SUFFIX -ЪJ-**  
**Formal Description of Slavic Languages (FDSL 17), Brno, November 20-22, 2024**

**1 INTRODUCTION: MASS NOUNS, THEIR DENOTATION AND UNCOUNTABILITY**

Quine 1960:91: plurals and mass nouns both have cumulative reference:

- (1) a. A is water and B is water; therefore, A and B together are water.
- b. A are apples and B are apples; therefore, A and B together are apples.

Link 1983, Landman 1989a, etc.: plural predicates form an atomic join semi-lattice (derived via the pluralization operation, now conventionally referred to as \*):



The denotations of mass nouns like *sand* or *flour* do not have minimal parts, but otherwise their structure (with built-in cumulativity) is the same

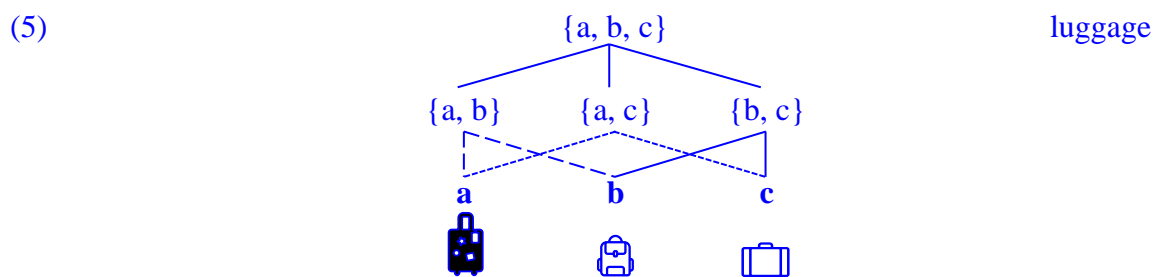
If counting involves access to atoms (3), mass nouns are predicted to not be countable (except on kind or package readings):

- (3)  $\llbracket \text{three} \rrbracket = \lambda x . |x| = 3$
- (4) a. ??seven bloods
- b. five beers (= packages of beer) package reading
- c. three wines (= sorts of wines) sub-kind reading

Reason: either they have no atoms at all (Link 1983, Landman 1989a, 1991) or their only non-vague atom is the entire kind (Chierchia 1998)

Problem: some mass nouns do have minimal parts (henceforth, **neat mass nouns**):

Terminology: *object mass nouns* (Barner and Snedeker 2005), a.k.a. *fake mass nouns* (Chierchia 2010, 2021), *count mass nouns* (Doetjes 1997), or *neat mass nouns* (Landman 2011). I choose the term *neat mass nouns* so as to also have the complement set denotation, *mess mass nouns*



A person's luggage can consist of just their backpack

**Concepts that are encoded as neat mass nouns in one language can be encoded as count nouns in another:**

- (6) a. *linsen* 'lentils.PL' (German), *lentils* (English) Sutton and Filip 2016
- b. *lešta* 'lentils.SG' (Bulgarian); *čočka* 'lentils.SG' (Czech)

Or within one language:

- (7) a. *meubilair* ‘furniture’ Dutch (Landman 2011)  
 b. *meubel* ‘a piece of furniture.SG’, *meubels* ‘furniture.PL’
- (8) a. *mobilia* ‘furniture’ Italian (Chierchia 2010)  
 b. *mobile* ‘a piece of furniture.SG’, *mobili* ‘pieces of furniture’

The denotation of a neat mass noun seems to have the same structure as a plural

## 2 ATOMS IN THE DENOTATION OF NEAT MASS NOUNS

Novel evidence: Russian derivatives in *-bj-* (surface [j]), dominant post-accenting)

Output: neuter neat mass nouns, semi-productive for [+animate] bases (pejorative for [+human] bases, natural for disliked animals), otherwise unproductive:

For possible homophones and alloemes of *-bj-* see section 5

- (9) a. *duračjǒ* ‘fools’ (cf. *durák* ‘fool’) animate neat mass  
 b. *vorjǒ* ‘thieves’ (cf. *vor* ‘thief’)  
 c. *voronjǒ* ‘ravens, crows’ (*vóron* ‘raven’, *voróna* ‘crow’)  
 d. *komarjǒ* ‘mosquitos’ (*komár* ‘mosquito’)  
 e. *otrǎbje* ‘trash (arch.), rabble’ (cranberry root)
- (10) a. *dubjǒ* ‘cudgels’ (cf. *dubína* ‘cudgel’) inanimate neat mass  
 b. *višénje* ‘cherries, cherry trees’ (cf. *višnja* ‘cherry’)  
 c. *beljǒ* ‘linen, underwear’ (from *béljij* ‘white’)  
 d. *rvanjǒ* ‘tatters’ (from *rvánij* ‘torn’)
- (11) a. *starjǒ* ‘old stuff’ (cf. *stárij* ‘old’) inanimate mess mass  
 b. *korjǒ* ‘bark stripped from trees’ (cf. *korá* ‘bark’)  
 c. *smoljǒ* ‘resinous firewood’ (cf. *smolá* ‘resin’)

Not cluster-forming, as far as I can determine (especially for higher animates (9a-b, e))

(12), with lots of attested instances online, shows that the denotation of neat *bj-*nouns based on animate stems contains singular individuals:

Individual humans are not decomposable into smaller entities that can still be fools

- (12) Ti – *duračjǒ*.  
 you.SG [are] fool.BJ  
*You’re a fool.*

**Whether an *bj-*noun is interpreted as neat or mess depends on the structure of the input:**

count bases yield neat mass nouns, mass bases (mess or adjectival) yield mess mass nouns

See section 46.1 for the full picture

The suffix *-bj-* introduces mass/plural structure, i.e., cumulative reference

Which makes it similar or identical to **Link’s (1983) \*-operator**

If derived neat mass nouns have a semantic structure distinct from plurals, what is it?

Unlike group-denoting *pluralia tantum* in Czech (Grimm and Dočekal 2021), *-bj-* nouns do not combine with cardinals, including collective cardinals:

Russian collective cardinals are required with count *pluralia tantum* nouns (like *sani* ‘sleigh’) and possible with animate masculine nouns (subject to a lot of variation, see Nikunlassi 2000 and other references in Corbett 2019)



Nor can it be pluralized: pluralization of (5) would just return (5)  
Unless it yields plurals of abundance (*waters*) and emphasis (*heavens*), cf. Tsoulas 2006, Alexiadou 2011

## 4 CONCLUSION

Two main contributions of this work:

- neat mass nouns and counting: assuming the same atomic join semi-lattice structure for neat mass nouns and plurals is unproblematic if cardinals combine with atomic predicates (i.e., with singular count NPs) and plural marking if present is agreement rather than the locus of semantic pluralization (Ionin and Matushansky 2018)
- Russian *-bj-* nouns: the suffix is argued to contribute the same semantics as Link's \*-operator, the resulting denotation is shown to include atoms if the base does

Vagueness and overlap (Sutton and Filip 2016, 2021 after Chierchia and Landman) matter for lexicalization, but neat mass nouns can be created on the basis of stable non-overlapping atoms

## 5 OTHER INSTANCES OF SURFACE *-BJ-*

Major categories: abstract nouns (productive), event nominalizations (productive), and plurals (non-productive)

### 5.1 Abstract nouns

There is a homophonous productive suffix (*-bj-2*) forming locative and PP-based nouns:

- (21) a. *bezvódjje* 'lack of water, aridity' (from *bez* 'without' and *vodá* 'water')  
b. *primórijje* 'seaside' (from *pri* 'by, next to' and *móre* 'sea')  
c. *poxméljje* 'hangover' (from *po* 'along, post (i.e., after)' and *xmelj* 'inebriation')  
d. *privóljje* 'free space, freedom' (from *pri* 'by, next to' and *vólja* 'freedom')

Most of these nouns are not count

Though some have lost all link to original PPs (e.g., *ožerelje* 'necklace', *uščelje* 'gorge') and become count

The closed class of de-locative nouns is probably part of the same group:

- (22) a. *nizóvjje* 'the lower reaches (of a river)' (from *niz* 'bottom') locations (count)  
b. *ploskogórjje* 'table land' (from *plóskij* 'flat', *gorá* 'mountain')  
c. *verxóvjje* 'upper reaches (of a river)' (from *verx* 'top')

Differences from our *-bj-*:

- semantics: *-bj-2* yields abstract nouns and locations (setting aside semantic drift);
- phonology: *-bj-2* is strictly pre-accenting;
- morphology: *-bj-2* has a lexically conditioned allomorph *-ij-*, which does not create collectives

The distribution of the *-ij-* and *-bj-* allomorphs is not clear

In this case *-bj-* looks like simple nominalization (but can also be regarded as cumulating: from points (or vectors) to regions, and then to the maximal such region)

The domain of locative PPs is atomic if they are assumed to denote sets of dots; they are viewed as sets of vectors (Zwarts and Winter 2000) or regions (Wunderlich 1991, 1993), they become mass-like: minimal elements cannot be defined. The denotation of the derived *-ij-* nouns, however, is both mass-like (as they cannot be counted) and count-like (as they are generally spatially and/or temporally bounded)

## 5.2 Event nominalizations

The same formal properties (pre-accentuation, *-ij-* allomorph) also characterize the suffix *-bj-* in event nouns (which Chierchia 2010 regards as neat mass):

- (23) a. *britjǒ* ‘shaving’ (cf. *britji* ‘to shave’) action  
 b. *štópanje* ‘darning’ (cf. *štópatʹ* ‘to darn’) result

Babby 1993, 1997, Sadler, Spencer and Zaretskaya 1997, Rappaport 2001, and Pazelskaya and Tatevosov 2008: **event nominalizations** are derived by the combination of the passive past participle suffix (three surface allomorphs: *-n-*, *-en-* and *-t-*) and the suffix *-bj-/ij-*:

- (24) a. ot- kry- v- a- n- ij- e -n-  
 PREFIX cover IMPV TH PPP BJ NOM  
*opening*
- b. ot- kry- t- ij- e -t-  
 PREFIX cover PPP BJ NOM  
*discovery*
- c. ot.noš- en- ij- e -en-  
 PREFIX.carry.TH PPP BJ NOM  
*relation, attitude*

Thus this *-ij-* is an allomorph of *-bj-* (23), but sometimes there is a difference in meaning:

- (25) a. *proščánie* ← *proščátʹ* ‘to forgive’ (imperfective)  
*the process of forgiving*
- b. *proščánie* ← *proščátʹsʹja* ‘to say goodbye’ (imperfective)  
*the process of saying farewell*
- c. *proščánje*  
*farewell*

- (26) *pečénie* ‘cookie(s)’, *pečénie* ‘the process of baking’ ← *pečʹ* ‘to bake’

Special meanings can appear in both types of derivations

## 5.3 Plurals in *-bj-*

Two types: plural augments and *pluralia tantum*

### 5.3.1 Plural augments

In a closed class of ca. 40 nouns *-bj-* functions as a plural augment (Matushansky 2024):

- (27) a. *brat/bráta* ‘brother.M.NOM/GEN’ → *brátja* ‘brother.PL’ augmented plurals  
 b. *knʹazi/knʹázja* ‘prince.M.NOM/GEN’ → *knʹazjá* ‘prince.PL’  
 c. *kriló/krilá* ‘wing.N NOM/GEN’ → *krílja* ‘wing.PL’

Some genitive plural forms show that it is the same suffix segmentally:

- (28) *knʹazi/knʹázja* ‘prince.M.NOM/GEN’ → *knʹazjá/knʹazéj* ‘prince.PL.NOM/GEN’

Accentually it might be different: augmented plurals need not have inflectional stress  
 Not a very strong argument, since Russian has stem-conditioned stress retraction in the plural

Augmented plurals combine with cardinals:

- (29) *dvenádcati stúli-j-ev/líst-j-ev* augmented plural  
twelve chair-BJ-PL.GEN/leaf-BJ-PL.GEN  
*twelve chairs/leaves*

Hence *-bj-* is either a different suffix here or a semantically vacuous alloseme:

- semantic deletion (cf. Haspelmath 1995 on affix conglutination): an actual process (cf. phonological deletion, see Pesetsky 1979), the morpheme turns into an identity function
- semantically empty allosemes (cf. Marantz 2013): will have to be postulated for a lot of morphemes

Descriptive generalization: the suffix *-bj-* is semantically vacuous in the context of [+plural] Which seems to be quite similar to Modal Concord (Geurts and Huitink 2006) suggesting another argument for the basic identity of pluralization and aggregation

### 5.3.2 *Pluralia tantum* in *-bj-*

If *-bj-* is semantically empty in (27), it can also be semantically empty in *pluralia tantum* mass nouns in *-bj-*:

- (30) a. *otrébija* ‘(human) rabble.PL’ neat mass *pluralia tantum*  
b. *loxmótija* ‘rags’, *xlópjja* ‘flakes’  
c. *úgolija* ‘embers’, *grózdija* ‘bunches’

Unlike augmented plurals, these do not combine with cardinals:

- (31) a. \**semi loxmóti-j-ev* ineffability  
seven rag-BJ-PL.GEN  
b. *semi \*grózdj-j-ev/grózd-ej* only regular plural possible  
seven bunch-BJ-PL.GEN/bunch-PL.GEN

Just like plural morphology, the suffix *-bj-* may be semantically vacuous

## 6 LOOSE ENDS

### 6.1 Deadjectival derivates

Denotation of the adjectival stem is probably non-atomic

Prediction (false): deadjectival derivates should only denote mess mass:

- (32) a. *starjó* ‘old stuff’ (cf. *stárij* ‘old’) deadjectival mess mass  
b. *sírjó* ‘raw materials/stuff’ (cf. *sírój* ‘raw’)  
c. *svežjó* ‘fresh raw materials/stuff’ (from *svéžij* ‘fresh’)
- (33) a. *beljó* ‘linen, underwear’ (from *bélij* ‘white’) deadjectival neat mass  
b. *rvanjó* ‘tatters’ (from *rvánij* ‘torn’)  
c. *maljó* ‘small things’ (from *málij* ‘small’)

Proposal: (33b-c) are neat because these adjectives are stubbornly distributive (Schwarzschild 2011), i.e., apply to atoms; (33a) is an exception (idiosyncratic interpretation)

Apparent deadjectival derivation may involve an intermediate null-derived noun:

- (34) a. Solnce i sinj, **zelen-jj-o** šelestjaščee počkoj...  $\gamma$   
 sun and blue.NMLZ green-BJ-SG.NOM rustling.NSG bud.INSTR  
*The sun and the blue, plants rustling their buds...*
- b. A doktoram vseгда respekt!!! i **zelen-jj-o**.  $\gamma$   
 and doctors.DAT always respect and green-BJ-SG.NOM  
*And doctors should always have respect! And greenbacks.*
- c. studenčeskoe **zelen-jj-o** ne [...] bylo priveredlivim v plane edi  $\gamma$   
 student.ADJ green-BJ-SG.NOM NEG was picky in plan food.GEN  
*It's not that green students were particularly picky about food.*

The neologism in (34a) could be derived from *zeleni* ‘greenery’, and (34b), from the slang null-derived deadjectival pluralia tantum *zeliónie* ‘greenbacks’ (literally, *green ones*). (34c) is not explained

### 6.2 Alternative analyses of neat mass nouns

Landman 1989a, b, 1991: mass nouns have no minimal parts

Landman 2011, 2020, 2021: their minimal parts are overlapping:

Sutton and Filip 2016

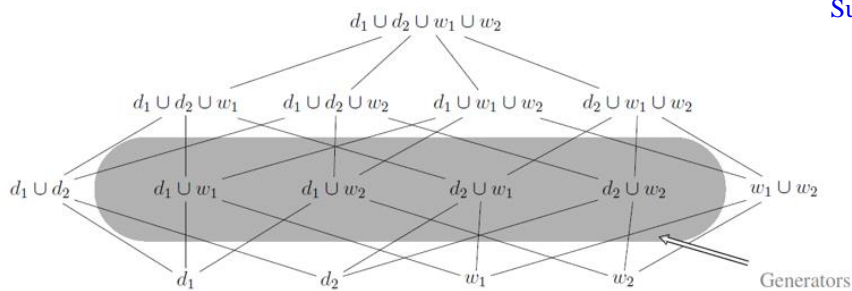


Figure 1: Generators and minimal elements for *mud*

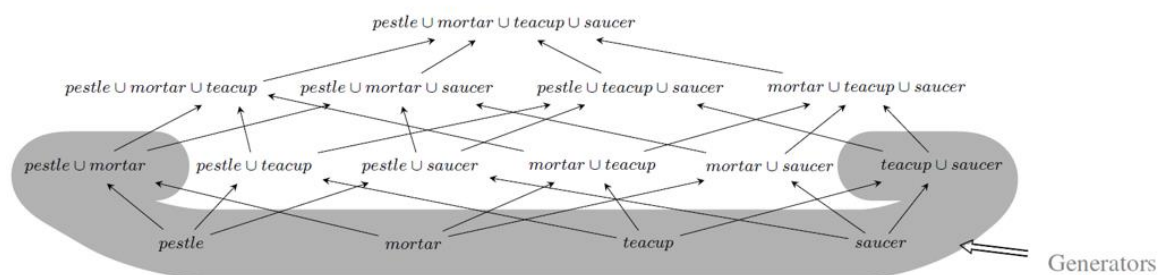


Figure 2: Generators for *kitchenware*

Given that individual people are in the denotation of *duračjō* ‘fools’ and no special groups are singled out, these neat mass nouns do not seem to have overlapping minimal parts

Chierchia 1998, 2010, 2021: minimal parts of mass nouns are too vague to permit counting, so their atoms are the totality of the denotation. Neat mass nouns result from linguistic encoding of count concepts as if they contain just one atom (p.43)



Sutton and Filip 2016, 2021: the minimal parts of specific granular concepts cannot be different within the same language:

- (35) a. Same(n) ‘seed(s)’ German  
b. Saat ‘seed’

The existence of neat mass plurals is not expected for the single-atom denotation

### 6.3 Morphological plurality and mass

Both neat and mess mass nouns can be *pluralia tantum* (unexpected if mass nouns denote the maximal atom):

- (36) a. clothes, furnishings, groceries Acquaviva 2004  
b. arrears, suds
- (37) a. *kandalí* ‘fettors’, *drová* ‘firewood’  
b. *dén’gi* ‘money’, *kan’kuli* ‘school holidays’

Neat mass plurals appear to have non-vague atoms in their denotation:

- (38) a. *rodnie* ‘relatives.PL’, *devčáta* ‘girls’ (Russian)  
b. *omwonenden* ‘neighbors.PL’ (Dutch)

In Dutch they cannot combine with a cardinal, in Russian collective numerals might be possible for (38a)

The fact that Russian neat mass plurals cannot function as predicates with a singular subject suggests that they do not contain singletons

Grimm and Dočekal 2021: Czech aggregate nouns in *-í-* combine with collective numerals:

- (39) *dv-oje nádobí*  
two-COLL dishes.COLL  
*two sets of dishes*

Possibility: Czech aggregate nouns in *-í-* might have groups as atoms

The existence of countable (i.e., atomic) *pluralia tantum* (e.g., *sáni* ‘sledge’, see also Karttunen 2006 on Finnish) completes the empirical picture: the underlying denotation of an atomic set (can be counted) or of an atomic join semi-lattice (cannot) is only partially linked to plural morphology but directly connected to compatibility with cardinals.

### 6.4 Accentuation and allomorphy vs. homophony

Vowel neutralization in unstressed syllables after palatalized consonants:

- /u/ → [u]
- /a/, /o/, /e/, /i/ → [i]

The nominative neuter endings, the singular *-o-* and the plural *-a-* are neutralized, in unstressed syllables

The aggregate suffix *-bj-* is dominant and post-accenting in contemporary Russian, but it didn’t used to be

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