Count/mass flexibility of nouns: The case of Russian

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According to the neo-constructionist view put forth in Borer (2005), among others, all nouns are mass in the lexicon and additional functional heads in the DP build a count interpretation. Plural marking and classifiers reflect the availability of such additional structure. In the absence of this structure, every apparent count noun must receive a mass interpretation. Different syntactic criteria are employed to identify contexts which typically license the occurrence of only mass nouns or only count nouns. The following criteria play a key role in distinguishing the mass use of nouns from the count use: If a noun in the singular is able to combine with weak quantifiers of the *much*/*less*-type as in (1a), it has a mass use. If a noun can receive plural in combination with or without a cardinal numeral (1b), it has a count use (e.g., Chierchia 1998).

(1) a. determiners like *much, less, a little, a bit of, more* + N_{SG} → mass use
much oxygen vs. *#much bottle*
b. (cardinal numeral +) N_{PL} → count use
*(five) *oxygens* vs. (*five) bottles*

Nouns in English are known to permit a large degree of nominal flexibility: prototypical count nouns like *car* can undergo a count-to-mass shift triggered by *much.*

(2) a. *How much car you can afford?*
b. *Phantom 87s were too much ski for me.* (Katz & Zamparelli 2012)

To test the viability of the neo-constructionist theory, we will explore nominal flexibility in Russian. Russian, like other Slavic languages, possesses rich inflectional and derivational morphology coding countability. This might limit noun flexibility, as has been claimed for Czech (Dočekal & Grimm & 2021). However, Ljaševskaja (2004) observes that many nouns in Russian have a "doule-life": they may easily get a mass or a count interpretation depending on the context. One example is nouns for vegetables like *tykva'* 'pumpkin.SG'. If this noun in the singular is combined with *mnogo* 'much' it has a mass interpretation (*mnogo tykvy* much pumpkin.SG.GEN' (mass)). In combination with numerals greater than five it has a plural form and gets a count interpretation (*pjat' tykv* 'five pumpkins.PL.GEN' (count)). To get a broader empirical picture of nominal flexibility in Russian, we conducted a corpus study on count-to-mass shifts in the context of weak quantifiers.

Corpus study: As the data source for the study we used the Russian National Corpus and the internet. The acceptability of the data from the internet was checked by two native speakers. To identify mass uses of nouns in the corpus, we used a combination of uninflected weak quantifiers of the *mnogo/malo*-type as in (3) with nouns in the singular – this syntactic pattern requires a mass interpretation of nouns in Russian (cf. *mnogo kisloroda* 'much oxygen.SG.GEN' vs. #*mnogo butylki*.SG.GEN 'much bottles').

(3) *mnogo* 'many'*/ malo* 'less' */ nemnogo* 'a bit of' */ bol'še* 'more'*/skol'ko* 'how much' + $\mathbf{N_{SG}}$

In the first study, the search query had the form [quantifier + N_{SG}] and N_{SG} was a placeholder. Mass nouns, which are mostly morphologically singular, could not be automatically excluded in the search. For this reason the output of the corpus search (400 examples) was analyzed and classified by two native speakers. Most singular nouns in the sample were identified as abstract mass nouns (*svoboda* 'freedom', *vremja* 'time'), followed by concrete mass nouns (*narod* 'people.SG', *mëd* 'honey') and ambiguous dual-life nouns (*sliva* 'plum', *pero* 'pen', *kabel'* 'cable', *kamen'* 'stone'). We collected nouns which the dictionary by Efremova (2000) classifies as count nouns. We found 17 such nouns in our sample and divided them into three groups; cf. some examples:

(4) 1. animals: e.g., *volk* ‘wolf’, *ovca* ‘sheep’, *ptica* ‘bird’ ...
2. foodstuff: e.g., *jabloko* ‘apple’, *limon* ‘lemon’, *baklažan* ‘aubergine’…
3. body parts: e.g., *lico* ‘face’, *nos* ‘nose’, *telo* ‘body’...

Interestingly, in the corpus examples names of animals in 1 in their mass use do not refer to substances/meat, but to a kind/collective aggregate comprising instances of a kind/single individuals (5). The nouns of classes 2 and 3, however, are interpreted as referring to a substance and no singletons play a role (6), (7).

(5) Nynče bylo očen’ *mnogo volka*. [NKRJ]
‘Lit.:There were *a lot of wolve* today.’

(6) Ja ničego ne mogu skazat’, potomu čto očen’ *mnogo jabloka* v rot nabral. [NKRJ]
‘I couldn't say anything because I had so *much apple* in my mouth.’

(7) U Livanova bylo vsego *mnogo: lica, golosa, tela, ...* [NKRJ]
‘Lit.: Livanov had much of everything: *much of face, of voice, of body, ...*’

In the second corpus study we tested whether other apparently genuine count nouns may occur in mass contexts with weak quantifiers. We used the lexical classes given in (8) from a study by Djalali et al. (2011) on English. We tested some nouns we considered representative of their class.

(8) 4. shape: e.g., *kub* ‘cube’, *celinder* ‘cylinder’, *krug* ‘circle’
5. group terms: e.g., *roj* ‘swarm’, *stado* ‘herd’, *staja* ‘flock’
6. simplex artefacts: e.g., *molotok* ‘hammer’, *karandaš* ‘pencil’, *stol* ‘table’
7. complex artefacts: e.g., *avtomobil’* ‘car’, *comp’juter*, ‘computer’, *velosiped* ‘bicycle’

The only noun we found in combination with weak quantifiers in our search was *avtomobil’* ‘car’ (class 7). It has frequently been used in advertising slogans like “*Mnogo avtomobilja za malo deneg*” ‘A lot of car for little money’, which seems to be a direct translation from English. Here *avtomobil’* does not mean ‘car substance’ but rather refers to a collection of technical features which constitute the equipment of a car.

Results: On the basis of our empirical analysis, three types of prototypical count nouns with respect to their propensity for a count-to-mass shift and to the type of a mass interpretation can be distinguished: (i) nouns with only a count reading (classes 4–6), (ii) nouns which get the mass reading ‘substance’ (classes 2, 3), and (iii) nouns occurring with the mass reading ‘kind/collective aggregate’ (classes 1 and 7).

Conclusion and discussion: Not all nouns are equally amenable to mass or count uses – nouns often prefer one use. A theory which claims that all nouns start out with a mass denotation and are unmarked for count or mass in the lexicon cannot straightforwardly account for our results. We will discuss an alternative analysis in the theory of Nanosyntax (Starke 2018), which also assumes a fine-grained syntactic structure for building a count interpretation (Caha 2021). However, it departs from Borer (2005) and assumes that nouns in the lexicon are specified for syntactic features. If they are inserted into the syntax they may specify all or less of these features. This can explain the nominal flexibility in Russian. The three different classes of nouns we identified can be captured by different sizes of the syntactic subtree the nouns can cover in the syntax according to their lexical entry. The two types of mass interpretation result from different features of the Mass head.

Selected references

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