(In)definiteness in Russian bare nouns revisited: an experimental study

Introduction The three argument introducing operations, $\iota, \exists$ and *nom*, are supposed to be sufficient to denote any NP in any language. Article-less languages do not have special morphology for them, therefore their nominals are usually ambiguous between definite and indefinite. This study addresses this ambiguity of bare nouns in Russian. I investigate uniqueness as one of the two core ingredients of definiteness, and I am focusing on the interpretation of bare nouns in presentational contexts, which are least likely to invoke definiteness. I provide experimental evidence for Russian bare singulars (SG) being interpreted uniquely, and Russian bare plurals (PL) being interpreted maximally. I support my claim by testing English data as well, and I show that Russian bare nouns align with English definite NPs rather than with English indefinite NPs. Thus, my results fully support the theory proposed by Dayal (2004). I further suggest that Russian bare arguments are always introduced by ι/σ. Their indefinite reading occur in focus-marked positions, and arise because the *Foc* operator attaches below D hosting ι/σ, which results in $\exists-$closure.

Opposite views There is no consensus about the nature of bare nouns in article-less languages in the literature. Contra Dayal (2004), some authors claim that Russian bare nouns are born indefinite and derive uniqueness as a pragmatic presupposition (Šimík&Demian 2020, Borik et al. 2019, Borik et al. 2020, Seres&Borik 2021). However, the experiment of Šimík and Demian is not targeted at presentational contexts, which could have potentially resulted in the givenness of target NPs. Seres, Borik, and their coauthors draw their conclusions on examples with the bare NP being focused or immediately preceded by some focused element. Moreover, all these studies are based on a wrong assumption that Heim (2011) claimed bare NPs to be indefinite, while in fact it is rather a remark than a full-fledged analysis. I will show that the absence of uniqueness in previous experimental research doesn't mean that Russian bare NPs are born indefinite.

The experiment The goal was to determine whether Russian bare nouns are unique/maximal in presentational contexts, and to compare them to English definite and indefinite NPs. The study consisted of two experiments, targeting subject and object NPs, respectively. Each experiment was taken by 30 English and 30 Russian monolingual native speakers. Russian and English versions were identical. Experiment 1 (E1) consisted of two sub-experiments (Russian and English) and tested 2 Russian and 4 English sentences manipulating number (and, for English, definiteness) of the subject NP (1–2). The participants were introduced a language game scenario, which imitated a non-native speaker of English drawing cards and saying sentences about them. The participants were shown a picture the non-native speaker chose, and an experimental sentence they allegedly said about this picture. Then they were asked to rate how much they agree with this sentence being said about this picture. The 5 experimental pictures manipulated uniqueness/maximality of the referent (violin-playing girl(s)), its number, and its prominence in the picture (see Table 1). Experiment 2 (E2) was a similar task that targeted postverbal focused object NPs. Again, 2 Russian and 4 English sentences were tested(3–4). In order to avoid pluractionality and endorse the use of the perfective form, I opted for short videos as visual stimuli. The videos manipulated the same parameters of the referent: uniqueness/maximality, discourse prominence, and number (see Table 1). Each experimental screen included a video, a question about it, and a sentence. The participants rated how much they agree for this sentence being felicitous for this video.

Results The most striking result is that Russian bare nouns pattern together with English definite nouns, both in SG and PL and both in subject and object position, as shown in Figure 1. A linear mixed-effects model showed that the difference in their distributions is statistically insignificant (p>0.05). English INDEF.SG can have a non-uniqueness interpretation, but surprisingly, English bare PL also appeared to require maximality at least in in subject position. Another important

result for Russian is that in subject position, a bare SG can refer to a non-unique but prominent individual. In English DEF.SG subjects, the prominence effect is significantly weaker.

Analysis The striking similarity between Russian bare NPs and English definite NPs in presentational contexts is a strong evidence in favor of Dayal's theory. I adopt the view that Russian bare nouns in argument positions are DPs with a null head D (Lyutikova 2018 ao). I further propose that this null head contains a maximal argument-forming operator ι/σ of type $\langle\langle e,t,\rangle,e\rangle$. In this way, I suggest to treat kind readings of Russian bare PL (1) as maximal instantiations of kinds. Contexts where Russian bare NPs do receive an indefinite reading exist, but they are all restricted to specific syntactic configurations, and are always assigned a specific intonation pattern, e.g. sentence-final focus in sentences with generalized inversion (2).

(1) Dinozavry vymerli.
dinosaurs are.extinct.
'Dinosaurs are extinct.'

(2) V komnatu zašla   **ženščina**.
in room   entered woman
'A woman entered the room.'   (ι-reading impossible without intonation pitch)

I suggest an interface approach for the existential reading of focused NPs in Russian. I suggest that focus-marked constituents are preceded by a focus operator *Foc* in LF. I further adopt thew approach of Schwarzschild (1999) in that the application of focus marking to propositional types results in existential closure. Crucially, I suggest that *Foc* is placed between D^0 and NP (3).

(3)

DP
SpecDP
D^0
ι/σ *Foc*
NP
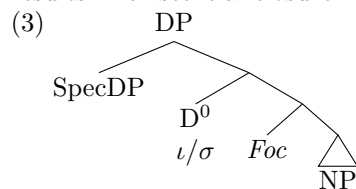
If the DP is F-marked, it gets existentially closed before D^0 is merged. This results in an existential reading. In this way, ι/σ is still the argument-forming operator that introduces all NPs in Russian, and in all cases, bare NPs in Russian are still unique/maximal.This is consistent with Ranking as proposed in (Dayal 2004): $\{nom,\iota\}{>}\exists$.

Maximization of bare plurals Another surprising result of this experimental study is the maximality of bare plurals in English as well. Although this question is beyond the scope of the current paper, I suppose that it can be explained by a pragmatic mechanism such as Maximization proposed in different versions by Dayal (2013) and Chierchia (fc.): if the sub-domains of the kind have been introduced by some operator (e.g. by the applicative head in the object-level predicate), bare PL denote the totality of the instances of their kind *in all the sub-domains of the situation of evaluation* even if used with object-level predicates. My data shows that there is something we didn't know about the Maximization Effect before. First, it is not restricted to downward-entailing contexts and can occur at least in preverbal subjects. Second, it does not occur in object position if upward-entailing contexts, as it probably is not compatible with focus. Finally, the relative felicity of Russian bare singular in contexts with non-unique but prominent referents suggests that some analogue of Maximization must be applicable to bare SG as well.

Conclusion I showed that Russian bare NPs are unique and maximal in presentational contexts and showed that the previous experimental studies were rather considering their derived readings. I proposed that in all cases, Russian bare arguments are introduced with a unique/maximal operator. The indefinite readings are restricted to focus-marked contexts. The *Foc* operator is introduced in the LF and is attached under the D head that hosts ι/σ. If the NP is focus-marked, it gets existentially closed and then introduced as an argument by the same operator.

Selected references Borik et al (2019). Interplay between position and interpretation: an experimental study of Russian bare plurals. *Revue Roumaine de Linguistique* 64(2): 163–77 • Borik et al. (2020). Preverbal (in)definites in Russian: an experimental study. In *Nominal anchoring: Specificity, definiteness and article systems across languages*: 51–80. • Chierchia (1998). Reference to kinds across languages. *Natural Language Semantics* 6: 339–40 • Chierchia (fc.) "People are fed up; don't mess with them". Non-quantificational arguments and polarity reversals. *Journal of Semantics* • Dayal (2004). Number marking and (in)definiteness in kind terms. *Linguistics and Philosophy*

27: 393–450 ● Dayal (2013) On the existential force of bare plurals across languages. In *From Grammar to Meaning: The Spontaneous Logicality of Language* ● Lyutikova (2018). *Struktura imennoj gruppy v bezartiklevom yazyke.* ● Šimík & Demian (2020). Definiteness, uniqueness, and maximality in languages with and without articles. *Journal of Semantics* 37: 311–66 ● Seres & Borik (2021). Definiteness in the absence of uniqueness: The case of Russian. In *Advances in Formal Slavic Linguistics* 2018.

(4) E1, Russian version

    a. **Devočka** igraet   na skripke.
       girl   play.PRS.3SG on violin
       'The/A girl is playing the violin.'

    b. **Devočki** igrajut   na skripke.
       girls   playPRS.3PL on violin
       'The girls are playing the violin.'

(5) E1, English version

    a. The girl is playing the violin.
    b. A girl is playing the violin.
    c. The girls are playing the violin.
    d. Girls are playing the violin.

(6) E2, Russian version

    a. Devuška postavila   **paket** na stol.
       woman   put.PFV.PST.SG.F bag   on table.
       'The woman puts the/a bag on the table.'

    b. Devuška postavila   **paket-y** na stol.
       woman   put.PFV.PST.SG.F bag-PL   on table.
       'The woman puts the bags/bags on the table.'

(7) E2, English version

    a. The woman put the bag on the table.
    b. The woman put a bag on the table.
    c. The woman put the bags on the table.
    d. The woman put bags on the table.

Table 1: Description of visual stimuli in E1 and E2.

Pictures in E1	Videos in E2	Parameters
P1: There is only one girl, and she plays the violin.	V1: A woman enters the scene with one bag, puts it on the table, and leaves.	+UNIQ, SG
P2: There are many girls, one of them is playing the violin and stays in the center, the others are playing other instruments.	V2: A woman enters the scene with five bags, leaves one of them on the table, and leaves with the rest.	-UNIQ, +PROM, SG
P3: There are many girls, one of them is playing the violin and stays in the back, the others are playing other instruments.	V3: A woman enters the scene with five bags, leaves one of them on the table, the other one on the floor, and leaves with the rest.	-UNIQ, -PROM, SG
P4: There are four girls, all of them are playing violins.	V4: A woman enters the scene with five bags, leaves all of them on the table, and leaves.	+MAX, PL
P5: There are five girls, two of them are playing violins, others are playing other instruments	V5: A woman enters the scene with five bags, leaves two of them on the table, two of them on the floor, and leaves with the rest.	-MAX, PL

Figure 1: Results of E1 and E2