(In)definiteness in Russian bare nouns

Evidence from presentational contexts

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Formal Approaches to Slavic Linguistics 32
Indiana University, Bloomington

May 21, 2023

Introduction

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$x_{K,w} =^{\cap} x$ the (maximal) scattered *Dogs are smart*
plurality of dogs in w

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     play-PRS.3SG on violin-PREP.SG
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(2) U menja est'   koška i   sobaka. Košk-u   zov-ut   Miya, a
    by I.ACC there.is cat   and dog   cat-ACC.SG call-PRS.3PL Mia   and
    sobak-u   zov-ut   Kuper.
    dog-ACC.SG call-PRS.3PL Cooper
    'I have a cat and a dog. The cat's name is Mia, and the dog's name is
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(3) Sobak-i umn-ye.
     dog-PL smart-PL
     'Dogs are smart.'

How do Russian bare nouns enter semantic computation?

Bare nouns as definites?

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- [Polinsky et al., to appear]: yes, there is such a presupposition for both singular and plurals
- Discreteness test:

(4) #Sobaka spala, v to vremja kak sobaka begala po dvoru.
     dog slept in that time how dog ran in yard
     #'The dog was sleeping, while the dog was running in the yard.'

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- Uniqueness/maximality in an out-of-the blue context:

(5)   Lena kupila mašinu.   U   neë   nado   pomenjat'
      Lena bought car.SG.ACC from 3SG.GEN.F necessary change
      kolësa.
      wheel.PL.ACC
      'Lena bought a car. The wheels on it need to be replaced.'
      → *all the wheels*

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    c. *'Some dogs are very smart.'

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- This applies to bare plurals; bare singulars, according to Dayal, are just definites

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- For example, in French the definite article *le/la* blocks the existential reading
- In languages without articles, there is ranking: kind and definite readings are preferred to indefinite ones

Revised Ranking [Dayal, 2004]

$$\{\iota, {}^{\cap}\} > \exists$$

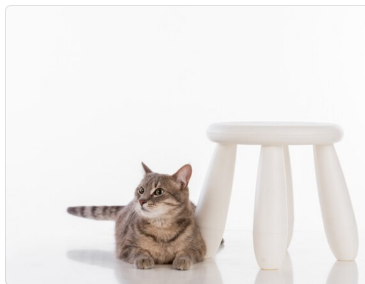## Bare nouns as definites?

- Problem: overgeneration

(7) Kot ne   sidit   na stule.
     cat NEG sit.PRS.3SG on chair

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✓ ¬ ∃: narrow scope of the existential

Bare nouns as definites?

- Problem: overgeneration

(9) Kot ne   sidit   na stule.
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✓ ι-reading
✓ ¬ ∃: narrow scope of the existential
X ∃ ¬: wide scope of the existential

Bare nouns as indefinites

- Borik [2016], Borik et al. [2020], Seres and Borik [2021], Šimík and Burianová [2020], Šimík and Demian [2020, 2021]: in article-less Slavic, bare nouns are born indefinite

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  (10)　ENGLISH
  - a.　The director of our school appeared in a public show. #The other director (of our school)...
  - b.　A director of our school appeared in a public show. The other director (of our school)...

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   (11)   RUSSIAN
       a.   Direktor našej   školy   pojavilsja v tok-šou.
            director our.GEN school.GEN appeared in talkshow
            'The director of our school appeared in a talkshow.'
       b.   Drugoj direktor našej   školy   vystupil na radio.
            another director our.GEN school.GEN spoke   on radio
            'The other director of our school spoke on the radio.'
            [Seres and Borik, 2021, p. 349]

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          radio
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          [Seres and Borik, 2021, p. 349]

Bare nouns as indefinites

- Šimík and Demian [2020]: people are okay using bare NPs illustrated by pictures that did not invoke uniqueness/maximality, word order and intonation were controlled
- Borik et al. [2020]: postverbal NPs must be interpreted as indefinites, preverbal NPs prefer to be definite but can be indefinite if there is a hyponymy/hyperonymy relation

Bare nouns as indefinites

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(13) Ja vygljanula iz okna: devočka i mal'čik igrajut v
     I looked.out from window girl and boy play.PRS.3PL in
     badminton. Devočka zakinula volančik na derevo.
     badminton girl threw shuttlecock on tree
     'I looked out of the window: **a girl** and a boy are playing
     badminton. **The girl** threw the shuttlecock on a tree.'

Bare nouns as indefinites

- Seres and Borik [2021]: there are two semantic mechanisms involved in the semantic derivation of bare nouns in Russian – existential quantification and choice functions

(14) $\exists x.P(x) \wedge Q(x)$

(15) $f_{CH}\{x : P(x)\}$

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- But you cannot get anaphoricity like in the badminton example if all of your "definite" readings are choice functions

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- [Reinhart, 1997, Winter, 1997]: choice functions have a free quantificational force
  but then we cannot solve the same overgeneration issue Dayal had
- [Kratzer, 1998, Matthewson, 1999]: choice functions can only be existentially closed at the topmost level
  still not what we observed!

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(16)   Každaja medsestra proverila každyj dokument dlja pacienta,
         every   nurse   checked   every   document for patient
         kotorogo   ona osmotrela
         which.ACC she examined
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- For every nurse there is a possibly different patient such that the
  nurse check every document on that patient
  $\forall x.[\text{nurse}(x) \rightarrow \exists z[\text{patient}(z) \wedge \exists y[\text{document-of-z}(y) \rightarrow \text{check}(x, y)]]]$

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- (18) is not felicitous if every nurse has a multiplicity of patients
- It is felicitous only in contexts where each nurse has only one patient
  $\rightarrow$ uniqueness/maximality presupposition

The experiment

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- Testing uniqueness in absence of familiarity
- Presentational (out-of-the-blue) contexts
- Two felicity judgment experiments:
  - Experiment 1 on subject NPs
  - Experiment 2 on object NPs
- Both experiments were performed on Russian speakers and on English speakers
- We tested Russian singular and plural bare nouns + English definite (singular and plural) + English indefinite singular + English bare plural
- $n = 30$ for each experiment; self-identified monolingual speakers of Russian or English, recruited through Yandex.Toloka or Prolific

Experiment 1: subject NPs

- How to measure pragmatics?

Language game scenario

Ann and Diana have a friend Ellie, who is not an English/Russian speaker. They help Ellie to learn English/Russian by playing a language game with her. Ellie takes a picture, looks at it, and says a sentence that she thinks is good to describe what's happening in the picture. The girls correct her, saying how good Ellie's sentences are.

Experiment 1: subject NPs

Ellie looks at this picture:
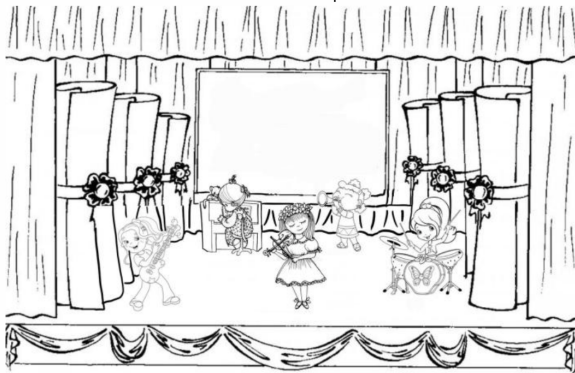
She says: "The girl is playing the violin."

0   1   2   3   4   5   6   7

How natural does her response sound to you?

3

E1: Parameters of the sentences

- Number of the NP
- For English – definiteness of the NP

(17)   RUSSIAN

    a.   Devočka igraet   na skripke.
        girl   is.playing on violin

    b.   Devočki igrajut   na skripke.
        girls   are.playing on violin

(18)   ENGLISH

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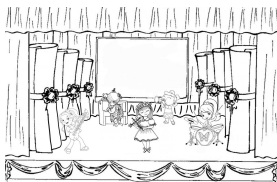   d.   Girls are playing the violin.

Parameters of the visual stimuli

- The number of the referent
- The uniqueness/maximality of the referent
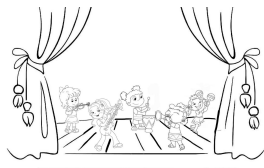- For the non-unique condition: the prominence of the referent

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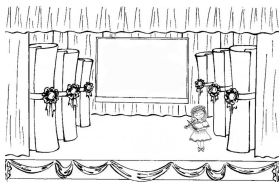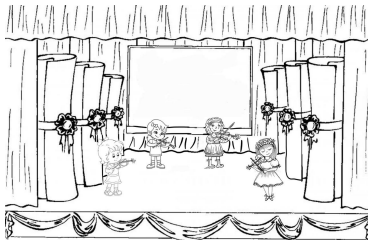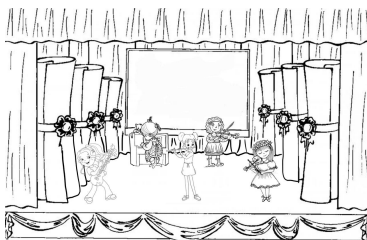
+UNIQ   **-UNIQ, +PROM**   **-UNIQ, -PROM**

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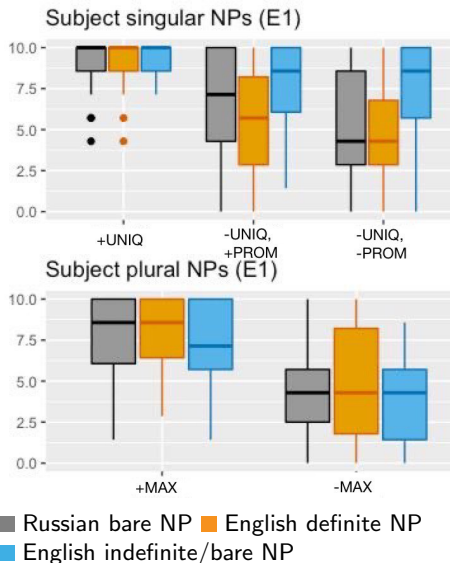
+MAX   **-MAX**

Experiment 1: Results

Subject singular NPs (E1)

Subject plural NPs (E1)

■ Russian bare NP ■ English definite NP
■ English indefinite/bare NP

- No statistical difference between Russian bare NP and English definite NP

- The prominence effect is only significant in Russian

- English bare plurals prefer the maximal interpretation as well

- Model: linear mixed-effects regression, participant IDs as random effects

Experiment 2: object NPs

- Very similar methodology but for object NPs
- Not pictures but videos in order to avoid pluractionality
- Same parameters of the videos: +UNIQ, -UNIQ+PROM, -UNIQ-PROM, +MAX, -MAX
- A question focusing the object NP

Experiment 2: object NPs

(19)   Devuška položila paket/pakety na stol
        woman   put   bag/bags   on table

(20)   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.

Experiment 2: object NPs

What did the woman put on the table?
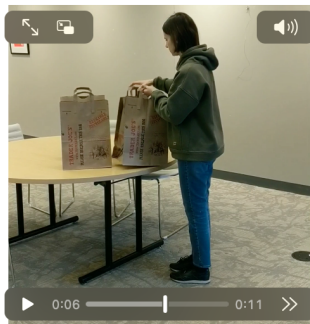
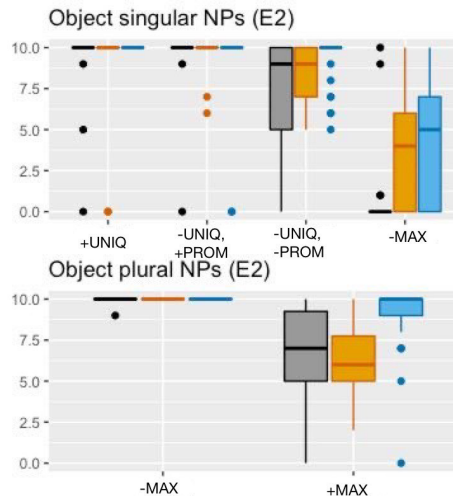The woman put a bag on the table.

| Totally disagree | Neither agree nor disagree | Totally agree |

How much do you agree with this answer?

Experiment 2: Results

Object singular NPs (E2)

Object plural NPs (E2)

Russian bare NP █ English definite NP
█ English indefinite/bare NP

- The difference between Russian bare singular NPs and English definite singular NPs is slightly more significant than in Exp 1 ($0.01 > p > 0.05$)

- The difference between the Russian bare plurals and English definite plurals in insignificant

- Model: linear mixed-effects regression, participant IDs as random effects

Discussion

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(21) Menja pozvala ženščina.
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- Pro Dayal's theory?
- What to do with obvious existential uses?

(21)   Menja pozvala ženščina.
       I.ACC called woman
       'A woman called me.'

(22)   Ja knigu čitaju.
       I book.ACC read.PRS.1SG
       '(What are you doing?) I'm reading a book.'

Existential uses

- I claim that all instances of existential bare nouns in Russian belong to the following three syntactic environments
  1. Postverbal focus
  2. Preverbal intonational focus
  3. Nominals modified by focus elements (like *drugoj* 'another')
- Don't they all look like the +F constituents identified by Bailyn [2012]?

Proposal

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- D projects as a head and must contain something responsible for the referential force
  - Multiple evidence from agreement

(23) éta   talantlivaja zubnoj   vrač
      this.FEM talented.FEM dental.MASC doctor
      'this talented (female) dentist'

Proposal: ARG

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- In Russian, though, this operator can range over all the three possible operations, but the ∃-realization is syntactically restricted

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- Chierchia [2022] proposed something similar for English bare plurals – a variable operator ARG ranging over $\exists$ and kind formation
- In Russian, though, this operator can range over all the three possible operations, but the $\exists$-realization is syntactically restricted

ARG - a null operator variable such that

$$
\text{ARG} = \begin{cases}
\iota P. \\
\lambda P.^{\cap}P \\
\lambda P.f_{\exists}(P_w), \\
\text{where } f_{\exists} \text{ is a variable ranging over a choice function} \\
\text{only if the context is } +\text{F}
\end{cases}
$$

Proposal:ARG

- The three argument-forming operators, $\iota, \exists$, and $\cap$ are subject to blocking and ranking
- Russian has no articles $\rightarrow$ no blocking
- But Russian does have ranking in the exact same way Dayal predicted: $\{\iota, \cap\} > \exists$
- In this way, the ARG operator embodies this ranking hierarchy

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- Instead, I proposed that at the D level there is a null variable ranging over the three argument-forming operators, which are not applied freely but abide by the ranking proposed by Dayal
- The exact syntactic mechanism of how this ranking works is yet to be elaborated

References I

Noun phrase in article-less Slavic languages: DP or not DP? *Language and Linguistics Compass*, 7(3):201–219, 2013.

J. F. Bailyn. *The Syntax of Russian*. Cambridge: Cambridge University Press, 2012.

O. Borik. Constraints on the position and interpretation of bare singular indefinites in russian. *Linguistica*, 56(1):9–23, 2016.

O. Borik, J. Borràs-Comes, and D. Seres. Preverbal (in)definites in russian: An experimental study. In K. Balogh, A. Latrouite, and R. D. V. V. Jr., editors, *Nominal Anchoring: Specificity, Definiteness and Article Systems across Languages*, pages 51–80. Berlin: Language Science Press, 2020.

G. Chierchia. Bare arguments: Setting a base line theory. Materials for LING207r: *Topics in Semantics. NP quantification without NP quantifiers: Developments in Approaches to Bare Arguments* at Harvard University. Ms., 2022.

V. Dayal. Number marking and (in)definiteness in kind terms. *Linguistics and Philosophy*, (27):393–450, 2004.

V. Dayal. (in)definiteness without articles: diagnosis, analysis, implications. In G. Sharma and R. Bhatt, editors, *Trends in Hindi Linguistics*, pages 1–26. Berlin/Boston: Walter de Gruyter, 2015.

A. Kratzer. Scope or Pseudo-Scope? are there Wide-Scope Indefinites? In S. Rothstein, editor, *Events in Grammar*. Dordrecht: Kluwer, 1998.

E. A. Lyutikova. *Struktura Imennoj Gruppy v Bezartiklevom Jazyke [Noun Phrase Structure in Article-less Languages]*. Moscow: Izdatel'skij dom IASK, Yazyki Slavjanskoj Kul'tury (Studia Philologica), 2018.

L. Matthewson. On the interpretation of wide scope indefinites. *Natural Language Semantics*, 7:79–134, 1999.

A. Pereltsvaig. Small nominals. *Natural Language & Linguistic Theory*, 24:433–500, 2006.

M. Polinsky, A. Soloveva, and V. Dayal. (in)definiteness in russian: a case study. In V. Dayal, editor, *The Open Handbook of (In)definiteness: A Hitchhiker's Guide to Interpreting Bare Arguments*. MIT Press, to appear.

T. Reinhart. Quantifier scope: how labor is divided between QR and choice functions. *Linguistics and Philosophy*, (20):335–397, 1997.

D. Seres and O. Borik. *Definiteness in the absence of uniqueness: The case of Russian*, pages 339–363. Berin: Language Science Press, 2021.

References II

R. Šimík and M. Burianová. Definiteness of bare nps as a function of clausal position: A corpus study of czech. In T. Ionin and J. E. MacDonald, editors, *Formal Approaches to Slavic Linguistics 26: The Urbana-Champaign Meeting 2017*, pages 343–361. University of Michigan, Ann Arbor: Michigan Slavic Publications, 2020.

R. Šimík and C. Demian. Definiteness, uniqueness, and maximality in languages with and without articles. *Journal of Semantics*, (37):311–366, 2020.

R. Šimík and C. Demian. Uniqueness and maximality in german and polish: A production experiment. In M. D. . M. Wagiel, editor, *Formal Approaches to Number in Slavic and beyond*, pages 149–171. Berlin: Language Science Press, 2021.

Y. Winter. Choice functions and the scopal semantics of indefinites. *Linguistics and Philosophy*, (20):399–467, 1997.